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ABSTRACT

The major interest of this study was to examine the interaction between selected ethnic cues in the aural and visual channels and the effect they have on student perception of an information source. Some 186 sixth grade students were divided equally along black and white racial lines into two groups and shown a filmstrip on drug abuse. Three identical filmstrips were assembled, using either a black, white, or integrated cast and narrated by either a distinctly black or white voice. Information retention was measured by a multiple choice test while subjective attitudes were measured by a semantic differential scale. Seven statistical hypotheses were generated and analyzed by a 3x2x2 multivariate analysis. Little significant difference was found in the effect of aural or visual cues on retention. However, the visual subjective attitudes showed that whites perceived information from all black casts to be less "expert" than information from all white or integrated casts. The author concluded that the effectiveness of a communication is at least partially determined by the ethnic characteristics of the source or receiver. (MC)

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A COMPARATIVE STUDY OF SELECTED ETHNIC CHARACTERISTICS OF INFORMATION SOURCES AND THEIR INFLUENCE ON THE RECEIVER

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CHAPTER I

THE PROBLEM

Purpose of the Study

The purpose of this study is to investigate the influence that selected ethnic variables of an information source have on students (both Black and White) as indicated by their retention of the message and their attitudes (selected variables) toward the information source. Specifically examined in this study are the effects of the auditory and visual channels of an information source (tape/slide presentation) in relationship to student reaction as measured by the dependent variables when selected ethnic characteristics of the source are manipulated. The major concern of this study is to determine if White or Black students perceive an information source with selected ethnic characteristics more effectively than alternative sources with differing sets of selected ethnic characteristics. The selected ethnic characteristics of the information source that are manipulated are the voice of the narrator and the physical characteristics which designate the race of individuals depicted in the visuals.

Statement of the Hypothesis

A general statement of the hypothesis for this study is: There is a significant interaction between the race (White or Black) of the subjects as indicated by selected attitude measurements and a test for retention of message content from designated information sources with: 1) selected ethnic characteristics of voice and 2) selected ethnic characteristics of persons depicted in the visuals.

Significant Questions to be Answered:

1. What effect does an information source in the form of a tape/slide presentation, which includes a Black ethnic voice as the narrator and visuals which portray people with Black ethnic characteristics, have on a) Black subjects and b) White subjects as indicated by a retention test and selected attitude measurements?

2. What effect does an information source in the form of a tape/slide presentation, which includes a Black ethnic voice as the narrator and visuals which portray people with White ethnic characteristics, have on a) Black subjects and b) White subjects as indicated by a retention test and selected attitude measurements?

3. What effect does an information source in the form of a tape/slide presentation, which includes a Black ethnic voice as the narrator and visuals which portray people either with Black ethnic characteristics or White ethnic characteristics, have on a) Black subjects and b) White subjects as indicated by a retention test and selected attitude measurements?

4. What effect does an information source in the form of a tape/slide presentation, which includes a White ethnic voice as the narrator and visuals which portray people with White ethnic characteristics, have on a) Black subjects and b) White subjects as indicated by a retention test and selected attitude measurements?

5. What effect does an information source in the form of a tape/slide presentation, which includes a White ethnic voice as the narrator and visuals which portray people with Black ethnic characteristics, have on a) Black subjects and b) White subjects as indicated by a retention test and selected attitude measurements?

6. What effect does an information source in the form of a tape/slide presentation, which includes a White ethnic voice as the narrator and visuals which portray people either with White ethnic characteristics or Black ethnic characteristics, have on a) Black subjects and b) White subjects as indicated by a retention test and selected attitude measurements?

Definitions

Specific terms used in this study are defined as follows:

1. Black--persons of predominantly African ancestry who are labeled as belonging to the Black minority, ethnic group.[1]

2. White--persons who belong to the Caucasian ethnic group.

3. Distinguishable Voice--a voice which the subjects associate with a Black or Caucasian speaker.

4. Ethnic Visuals--the racial composition of individuals depicted in the 2 x 2 slides.

5. Preference--the degree to which the voice of the narrator and the visuals of a tape/slide presentation are preferred by the subjects over the other sets of combined voice and visuals as indicated by an attitude measurement.

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[1]In this study Black will be used when referring to the Black minority group. However, cited material may include other terms such as Negro.

6. Source Credibility--listener response to the information source as measured by two dimensions of credibility. Those dimensions are: 1) perceived trustworthiness of the source, and 2) the perceived expertness of the source.

7. Receiver--the individual or individuals who are the target of a communication.

8. Information Source--the person, the group, or any of the various forms of media which present messages or communication.

Limitations of the Study

Specific limitations to this study which must be considered in facilitating a correct interpretation of the findings are the following:

1. The study is limited to a measurement of responses from selected Black and White pupils of the sixth grade level.

2. The study is limited to materials containing only people with White or Black ethnic characteristics. No attempt will be made to include other minority groups.

3. The study is limited to materials which are in an automated tape/slide format. Results obtained are not intended to function as a basis for inference to other information sources.

4. This study is further limited in that no attempt is made to distinguish between such possible variables as the student's sex, intelligence, economic background and existing racial attitude.

Theory Underlying the Study

The degree to which a teacher or an information source influences the reactions of students is dependent upon many variables within the communication-teaching process.

In order to determine how influential various information sources are, it is necessary to examine source differences (variables) which are relevant to the receiver's perceptions. Bettinghaus indicates that there are several interrelated variables such as source credibility, source-receiver similarities, status and charisma that can positively or negatively affect the influence of the information source.[2]

Research in the area of communication indicates that acceptance of a message is largely determined by how the receiver perceives the credibility of the information source. Emphasis is given to this point when Berlo et al. state that "The more credibility a source is perceived to have, the more likely the receiver is to accept the transmitted information."[3]

Some information sources are clearly more effective than others in communicating information, ideas, and points of view. This effectiveness that one source has over another can often be contributed to the different characteristics that each possesses. These different characteristics may be either ideological or demographic in nature. Bettinghaus, when discussing these characteristics in relationship to

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[2]Erwin P. Bettinghaus, Persuasive Communication (New York: Holt, Rinehart and Winston, Inc., 1968), p. 104.

[3]David K. Berlo, James B. Lemert, and Robert Mertz. "Dimensions for Evaluating the Acceptability of Message Sources." The Public Opinion Quarterly, Vol. 33 (Winter, 1969-70), p. 563.

source credibility, states:

> The problem is that credibility is not a single characteristic of an individual, such as socio-economic position. Credibility is a set of perceptions by the receiver. Characteristics of the source like age, sex and socio-economic status may affect the perceptions that a receiver has, and thus such characteristics become relevant to the study of credibility.[4]

Since credibility is measured by the audience's perception of the source, reference group membership becomes a factor to be considered. The concept reference group has commonly been referred to as "That group which serves as a point of reference in making comparisons or contrasts, especially in forming judgment about one's self and others."[5]

Implicit in this concept of reference group is the notion that an individual derives values and goals as well as frames of reference from the perspective of the group. A person's reference group may well contain persons whom he has never seen,[6] but it is important that the individuals composing such a group bear a psychological and perhaps even a physical relationship to each other.[7] Newcomb, indicates that reference groups may be classified as primary or

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[4]Bettinghaus, op. cit., p. 104.

[5]Tamotsu Shibutani, "Reference Groups as Perspectives," Current Perspectives in Social Psychology (New York: Oxford University Press, 1963), p. 98.

[6]M. Sherif and Caroline Sherif, Reference Groups (New York: Harper & Row, Publishers, 1964), pp. 44-48.

[7]D. Krech, and R. S. Crutchfield, Theory and Problems of Social Psychology (New York: McGraw-Hill, 1948).

secondary.[8] Racial groups and social class groups are two excellent examples of reference groups in which the members share common frames of reference or norms and exhibit a certain identification and cohesiveness with other members of their group.

As previously stated, the effectiveness of a communication is at least partially determined by the characteristics of the source. There is considerable evidence in social science literature to suggest that reference group membership is used by receivers to some extent in evaluating information sources which in turn determine their effectiveness. Newcomb gives support to this proposition when he indicates that reference groups serve as guides in the decision-making process in determining the effectiveness of an information source.[9] Additional support is given to this proposition by Sherif and Sherif who indicate that reaction to a source's physical characteristics may be influenced by an individual's reference group.[10] Hovland et al. support this line of thought when they write:

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[8]Theodore M. Newcomb, Social Psychology (New York: Dryden Press, 1950), pp. 492-516.

[9]Theodore M. Newcomb, "Attitude Development as a Function of Reference Groups: The Bennington Study," Readings in Social Psychology (New York: Holt, Rinehart and Winston, Inc., 1958), pp. 265-275.

[10]M. Sherif and Caroline Sherif, An Outline of Social Psychology (New York: Harper & Row, Publishers, 1956).

> One of the ways that physical cues of a source can operate is to heighten the individuals awareness (salience) of his membership in a given group.[11]

Source characteristics which are demographic in nature such as age, sex and ethnic origin tend to be easily identified. Individuals have little or no choice in selecting membership in such groups. However, demographic similarities do apparently have an influence on communications. McGuire states that information sources appear to be more effective when there is a similarity or identification between the source and the receiver of the message.

> Presumably the receiver, to the extent that he perceives the source to be like himself in diverse characteristics, assumes that they also share common needs and goals. The receiver might therefore conclude that what the source is urging is good for "our kind of people," and thus changes his attitude accordingly.[12]

Demographic variables can produce negative results especially when individuals of one ethnic origin are put in the position of judging the acceptance of an information source from another ethnic origin. McGuire supports this point in his statement:

> People, particularly prejudiced people, have little contact with others of a different race. In the ambiguity that results, one tends to ascribe ideological differences to strangers of a different skin color. Color differences produce large social-distance scores

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[11]Carl I. Hovland, Janis L. Irving and Harold H. Kelly, Communication and Persuasion (New Haven: Yale University, 1953), p. 163.

[12]William J. McGuire, "The Nature of Attitudes and Attitude Change," in Handbook of Social Psychology, 2nd edition, eds. Gardner Lindzey and Elliot Aronson (Reading, Mass.: Addison-Wesley, 1968), p. 187.

> by serving as a cue to elicit perceptions or assumptions of ideological disparity.[13]

Miller and Roberts offer two suggestions as to why the receiver's acceptance of a source may be affected when variables (cues) designating a different race are present.

> The first of these concerns variations in the cue properties of visual stimuli serving to identify race. Obviously at least in the case of White audiences, individuals are exposed more frequently to messages presented by White communicators than to communications originating from Negro communicators. Thus, when White communicators are paired with messages visual stimuli denoting race will have low cue values; they will not function as particularly distinctive stimuli in the total stimulus field of the White audience members. Conversely, when Negro communicators are paired with messages, the cue values of visual stimuli denoting race will be high, and their distinctiveness should lead White audience members to respond in a calculated way to reduce attention to the message.[14]

A second reason that Miller and Roberts give for possible differences in communication effectiveness of the two races is the racial attitudes held by White audiences.

> If some members of such audience entertain certain prejudices and hold certain negative sterotypes of Negroes in general, negative responses, such as perceptions of low source credibility and distortion or avoidance of message content, should result.[15]

Miller also contends that audience reaction to certain vocal as well as other physical characteristics of a source

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[13] Ibid., pp. 188-189.

[14] Gerald Miller and Kenn Roberts, "Communication Race, Open and Closed-Mindedness, and Response to Informative Communication," Audiovisual Communication Review, Vol. 13 (Fall, 1965), p. 260.

[15] Ibid, p. 260.

will often result in negative stereotyping of the source and will adversely affect the acceptance of the message by the receivers.[16]

An ethnic reference group does not necessarily guarantee that an individual will behave in a particular way, but when members of an ethnic group are exposed to various sets of experiences, their ethnic group membership will serve as a frame of reference. From this frame of reference individuals will draw upon past experiences to evaluate sources of information and to determine their perceived credibility. Some psychologists believe that children who belong to an ethnic minority attach a greater importance to their group identity than do those children with majority group status.[17] Through direct or vicarious participation in such a group one comes to perceive the world from that viewpoint. Yet this group need not be one in which he chooses to remain; a member of a minority group may despise it but still sees and judges the world largely through its eyes.[18]

In recent years there has been evidence of increased awareness and pride in the Black community. There is also

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[16]Gerald R. Miller and Murray A. Hewgill, "The Effect of Variation in Nonfluence and Audience Rating of Source Credibility," The Quarterly Journal of Speech, Vol. 1, No. 1 (Feb., 1964), p. 36.

[17]Bernard Berelson and Gary A. Steiner, Human Behavior (New York: Harcourt, Brace and World, 1964), p. 520.

[18]Shibutani, op. cit., p. 98.

strong evidence to support the postulate that as the Black community increases pride in its ethnic reference group a negative attitude toward the White reference group increases. Teahan states:

> Thus, the first step in a more positive self-concept among Negroes may be increased and more open hostility directed toward Whites as they attempt to deal with and destroy the myth of White superiority. It is almost as if the Negro were saying to himself. 'Not only am I better than I thought I was, but you (Whites) are much worse.'[19]

Most social scientists today tend to reject the belief that there are characteristics of an individual's attitudinal and behavioral structures based solely on his ethnic grouping. However, attitudes are determined by the experiences an individual has. To the extent that a minority group in the United States has occupied housing and schools apart from other segments of society, members of this group can be expected to respond differently to communication from the remainder of the community.[20] This then, seems to suggest that when audiences of a particular ethnic origin are exposed to information sources, their responses will be determined in part by the characteristics and experiences which they share with other members of the group and for which they have developed a particular frame of reference.

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[19]John E. Teahan, Some Effect of Audio-Visual Techniques on Racial Self-Concept, Final Report, Wayne State University, Detroit, Michigan, November, 1969, p. 56.

[20]Bettinghaus, op. cit., p. 36.

One of the reasons why the relation between source and receiver is important to educators and others is that some sources elicit greater attention than others. Kagan contends that learning will be facilitated if the child is identified with or wants to identify with a source of information.[21]

Miller pursues this theory when he indicates that identification with a hero facilitates adopting the hero's motives and attitudes.[22] This concept of identification probably points to an important effect to which visual and voice cues of an information source may contribute. Miller and Dollard's 1941 study involving their theory of imitation seemed to Miller to be a step in the right direction. Their theory of limitation led Miller to speculate that:

> More motivation will be aroused when the actors are similar to people who the students have been rewarded for copying. In general, these will be people of high prestige, unless the prestigeful people are completely out of the range copied by the audience. If the characters portrayed are completely unfamiliar to the members of the audience, we would not expect them to have any habits of copying such protagonists, and hence would expect little motivational effect.[23]

Miller further reasoned that perhaps this factor of identification is one of the reasons P. W. Holaday and G. D. Stoddard (1933) and Sturmthal and Curtis (1945) found that

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[21]Jerome Kagan, "On the Need for Relativism," American Psychologist, Vol, 22 (1967), pp. 131-142

[22]Neal Miller, Graphic Communication and the Crisis in Education (Washington, D. C.: National Edu. Assoc., 1957), p. 68.

[23]Ibid.

familiar settings seemed to help learning from instructional films and why studies by Hoban (1953) and C. I. Hovland, I. L. Janis and H. H. Kelly (1953) supported the hypothesis that identification with the protagonists is a significant variable in learning.[24] The value of pictorial and voice impact can be and often is identification with people and other personal categories of past experiences.

The discussion of ethnic reference group membership serves as the background and basis for this study. Specifically, this study investigates the assumption that reference group membership may positively or negatively affect the receiver's perceptions toward an information source when that source possesses similar or dissimilar characteristics from those of the receiver.

Need for the Study

As previously mentioned, there are a number of variables that may affect the receiver's perceptions toward an information source. Among these variables are those which designate ethnic characteristics of the information source. Miller writes: "While it is reasonable to assume that the race of a communicator may exercise an effect on audience response to a communication, there is a paucity of reported research dealing with this variable."[25]

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[24] Ibid.

[25] Miller and Roberts, op. cit., p. 259.

There is also a paucity of research pertaining to the effectiveness of communication between the teacher (source) and the student (receiver) in relationship to the race variable. Cohen states:

> What is the effect of racially matching teacher and student? Is it an undesirable characteristic of segregation, or is there a more accurate perception and understanding of cultural nuance between teacher and child of the same racial background? Unfortunately, no available study helps to answer this question.[26]

With the increasing use of instructional media, a second teacher-student pattern emerges that must also be considered. Instructional media in many cases will include cues both in the visual and auditory forms which will reveal the race of the communicator-teacher. The effectiveness that these sources of information have with the students should be of great concern to educators. Instructional material selection and utilization will be largely determined by how influential they prove to be.

It is apparent that more information and research are needed in order to determine what effects different characteristics (especially race) of various types of information sources have on the receiver's perceptions of source credibility. Berlo et al. indicate in a recent study that:

> We need empirical evidence establishing the criteria that in fact are used by receivers to evaluate information sources. We need to know how many dimensions are required to account for these evaluations.[27]

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[26]Elizabeth G. Cohen, "Status of Teachers," Review of Educational Research, XXXVII (June, 1967), p. 288.

[27]Berlo, op. cit., p. 564.

While a number of studies have been conducted on source credibility, very few have investigated the aural variable and the influence that it has on the audience. Aural variables, especially as they relate to ethnic groups should be more thoroughly investigated and this study is designed to examine such variables. Instructional materials for the schools have recently portrayed minority groups, visually in a wide range of roles and situations. However, little has been done to incorporate ethnic voice dialect. Children's television programs such as Sesame Street and The Electric Company are exceptions. Palmer, in writing about Sesame Street, states:

> It was decided to introduce varieties of speech forms on the program, including some spoken dialect and considerably informal "street" language, in order to enhance the target viewer's sense of identification with the show, to contribute to the child's self concept development....[28]

However the variables pertaining to aural cues in the programs have not been studied through experimental research. In this study aural cues of the narrator as well as visual cues are manipulated for investigation.

Most studies dealing with source influence have been conducted in situations where the effects can be contributed to a single clear-cut source, such as an individual speaker who communicates directly or indirectly to an audience.

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[28]Edward L. Palmer, Pre-Reading on Sesame Street. A paper prepared for the National Academy of Education, June 1, 1970.

However, Hovland et al. indicate that "Persons, groups or various forms of media can all be subsumed under the general category of "sources."[29] This study is interested in the effect that a dual-channel information source has on the influence of an audience when selected ethnic variables are manipulated in the audio and the visual channels.

In discussing the effectiveness of various information sources Hovland writes:

> Difference in effectiveness may sometimes depend upon whether the source is perceived as a speaker who originates the message, an endorser who is cited in the message, or the channel through which the message is transmitted. However, the same basic factors and principles underlie the operation of each of the many types of sources, so an analysis of the psychological processes mediating the reactions to one kind of source may be expected to be applicable to other types.[30]

Obviously, there is a great need for additional research regarding the effectiveness of information sources as it pertains to aural and visual stimuli that are identified with various ethnic groups. This is especially true in the area of dual-channel information sources because of the message being presented by the combinations of channels. With this in mind, a major interest of this study is to examine the interaction that selected ethnic cues in the audio and visual channels and the effect they have on the student perception of the information source. Broadbent concludes, from his own research and that of others, that there is a definite

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[29]Hovland, op. cit., p. 19.

[30]Ibid.

interaction effect between the audio and visual channels of an information source.[31]

With the apparent lack of research concerning ethnic variables of an information source such as aural and visual cues, this study is designed to contribute in the following ways:

1. To add to the present research dealing with source influence as it relates to ethnic groups.
2. To add to source credibility research as it relates to dual-channel information sources. More specifically, as it adds to the knowledge concerning ethnic cues of an information source and the effect they have on communication.
3. To provide information to assist commercial companies in developing audio visual instructional material, narrators and pictorial combinations are carefully matched to augment learning.
4. To provide information to assist educators in selection of insrructional materials.

Organization of the Study

In Chapter I, a frame of reference for the study is presented. Included is the purpose of the study, statement of the hypothesis, significant questions to be answered, definitions, theory underlying the study and the need for the study.

In Chapter II, the literature pertinent to 1) source credibility, 2) ethnic dialect and relationship to source effectiveness, and 3) racial bias is reviewed.

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[31]D. E. Broadbent, Perception and Communication (New York: Pergamon Pres-, Inc., 1958).

The design of the study and the procedures followed in the research are reported in Chapter III. Also described are sources of data, the research instruments, and the treatment of the data.

The examination and analysis of the data are reviewed in Chapter IV. Included is an analysis of the data obtained from each research instrument as it relates to the testable hypotheses.

In Chapter V, a summary of the study, conclusions, and implications for further research are presented.

CHAPTER II

REVIEW OF THE LITERATURE

In this chapter, the literature relevant to the present study is reviewed. The chapter is divided into three sections: 1) source credibility, 2) ethnic dialect and relationship to source effectiveness, and 3) racial bias. Each of these areas has a distinct set of literature and research. Even though the literature is quite diverse in origin there are important common threads throughout the three areas. These common threads or similarities are examined in relationship to source effectiveness as perceived by the receiver.

Source Credibility

Research, theory and experience affirm the notion that acceptance of a message by an audience is based in part on "who said it." Hovland et al. gives support to this point when they state:

> The effectiveness of a communication is commonly assumed to depend to a considerable extent upon who delivers it. Persons with prestige, highly respected persons or organizations may have much the same positive effect as if they originated the message. The impact of a message probably depends also upon the particular publication or channel through which it is transmitted. The above

> examples suggest the importance of persons, groups, or media which can be subsumed under the general category of "sources."[1]

A variety of descriptive labels has been attached to the research pertaining to the influence that the source has on communicative effectiveness. Some of these labels are: ethos, prestige, charisma, image or most frequently, source credibility. The numerous labels have appeared because studies involving this concept have arisen from quite diverse areas such as psychology, speech, sociology and education. Berlo et al., however, emphasize that "Whichever label is used, the more of "it" the information source is perceived to have, the more likely the receiver is to accept the transmitted information."[2]

Since source credibility research has been conducted in such diverse areas, a number of procedures have been employed in its measurement. Berlo et al. in summarizing their review of literature on source credibility indicate: "Typically, credibility is implicitly assumed to be unidimensional, dichotomous (either high or low), and specifiable in terms of objective characteristics of the source, such as social status or "prestige."[3] This traditional

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[1]Carl I. Hovland, Janis L. Irving and Harold H. Kelly, Communication and Persuasion (New Haven: Yale University Press, 1953), p. 19.

[2]David K. Berlo, James B. Lemert, and Robert Mertz, "Dimensions for Evaluating the Acceptability of Message Sources," The Public Opinion Quarterly, Vol. 33 (Winter 1969-70), p. 563.

[3]Ibid.

view of credibility as a unidimensional source attribute has been questioned by a number of writers. As early as 1953, Hovland, Janis and Kelly suggested the utility of a multi-dimentional model of source evaluation, and proposed two dimensions of the information source's image--perceived expertness and perceived trustworthiness.

> An individual's tendency to accept a message by a given information source will depend in part upon how well informed and intelligent he believes the source to be. However, a recipient may believe that a source is capable of transmitting valid statements, but still be inclined to reject the communication if he suspects the source is motivated to make nonvalid assertions. It seems necessary, therefore, to make a distinction between 1) the extent to which a source is perceived to be a source of valid assertions ("expertness") and 2) the degree of confidence in the source's intent to communicate the assertions he considers most valid ("trustworthiness"). In any given case, the weight given a source's assertions by the audience will depend upon both of these factors, and this resultant value can be referred to as the "credibility of the source."[4]

In both of these approaches, the concept "credibility" typically refers to and is defined by, a single element in the communication situation--that of evaluating the information source. It is important to this study that the reader keep in mind that credibility is defined in terms of the receiver's perceptions of the source. This points to how one ethnic reference group may differ in its perception of a source from that of another ethnic reference group. By continuing to examine source credibility through the perceptions of the receiver an insight into the number of

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[4]Hovland, op. cit., p. 21.

variables used for evaluation may be gained. Hoban and Van Ormer suggest some guidelines for consideration:

> ... the ability of any medium of communication ... to modify motivations, attitudes, and opinions lies not so much in the medium itself, but in the relationship of content and bias of the medium to 1) the personality structure of the perceiving individuals, and 2) the social environment of the audience.[5]

The number of reported studies which examine the influence that physical characteristics of an information source has on communication is quite limited. Miller substantiates this when he states: "Investigators have largely ignored those classes of physical and vocal variables likely to influence the audience's perception of the source's credibility."[6] Research in the specific area of interest to this study, that of audience perception toward racial characteristics, has even a greater deficiency. There are, however, several studies in the general area of source credibility which do have implications for this study and therefore are reported in addition to the limited number of studies involving the race variable.

Of special interest are those studies which have investigated the perceived prestige of the source in

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[5]Charles F. Hoban and Edward B. Van Ormer. Instructional Film Research 1918-1950. Technical Report SDC 269-7--19. New York: Special Devices Center, Office of Naval Research, 1951, pp. 5-20.

[6]Gerald Miller and Kenn Roberts, "Communication Race, Open and Closed-Mindedness, and Response to Informative Communications," Audiovisual Communication Review, Vol. 13, No. 3 (Fall, 1965), p. 259.

relationship to communication effectiveness. These studies are of particular importance because they have attempted to examine and compare the effectiveness of sources which are assumed to have either a high or low level of prestige. According to Sherif, stereotype or prestige is a crucial element of the communication process. He implies that the prestige that an information source is perceived to have plays an important role in the audience's evaluation. Attitudes toward the source serve as reference points in judging the actual communication.[7]

Haiman[8] in an early study found that subjects who perceived a source to be high in prestige also rated that source as more competent than sources of lower prestige. His procedure was to present a single recorded message to college level subjects by first attributing the message to either Thomas Parrin, Surgeon General of the United States; Eugene Dennis, Secretary of the Communist Party in America; or to a Northwestern University sophomore. The data indicates that the subjects rated Parrin significantly more competent than the other two sources.

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[7]Muzafer Sherif, "An Experimental Study of Stereotypes," Journal of Abnormal and Social Psychology, XXIX (January-March, 1935), 371-375.

[8]Franklyn Haiman, "An Experimental Study of the Effects of Ethos in Public Speaking," Speech Monographs, XVI (September, 1949), 190-202.

In a similar study, Anderson[9] sought to examine various levels of prestige of information sources dealing with the farm problem. A single recording was either attributed to a professor of agriculture or a farm agent. Once again, the subjects selected for the study were college students. Results of this study show that the professor was perceived as more competent and also received a higher rating on the dynamism dimension of source credibility. Scollon,[10] conducting film research pertaining to influencing children's acceptance of food found that prestige was a variable with great importance. He summarized his findings by concluding that the people portrayed in the film should be individuals high in prestige. He further suggested that those individuals should be well characterized, and most importantly, they should have a high degree of relationship to the audience's reference group.

A 1965 experiment conducted by Miller and Roberts[11] has special significance for the present study because of their use of visual cues for studying source influence. The major

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[9]Kenneth E. Anderson, "An Experimental Study of the Interaction of Artistic and Nonartistic Ethos in Persuasion," unpublished dissertation, Wisconsin, 1961, p. 118.

[10]Robert W. Scollon, "The Relative Effectiveness of Several Film Variables in Modifying Attitudes: A Study of the Application of Films for Influencing the Acceptability of Foods." Technical Report SDC 269-7-60. Department of Commerce, Office of Technical Services, 1956, p. 21.

[11]Miller and Roberts, op. cit., pp. 259-269.

purpose of their study was to determine the difference in influence, if any, that the race of an information source had upon the audience. The presentational mode of the message, which dealt with the need for weather control is of special interest to this study. The only cues that the audience received which distinguished the race of the communicator, were pictures of either White or Black girls. The subjects of the study were required to read identically written texts which were attributed either to the White or Black girl. A series of pictures depicting either the Black girl or the White girl were spaced discreetly throughout the printed text. The subjects were informed immediately at the beginning of the written text that the girl was the originator of the message. The researchers developed the following two hypotheses:

1. for White audiences, presentation of a message by a Black information source will result in lower retention of message content than will presentation of the same message by a White information source.

2. for White audiences, presentation of a message by a Black information source will result in less favorable attitude toward the message content than will presentation of the same message by a White information source.[12]

The two researchers concluded from their data that they could support the two hypotheses. The findings indicated that a White information source was more effective than a Black information source when the information was presented

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[12] Ibid.

to a White audience. The authors explained the difference of effectiveness between the two sources in terms of audience perception of source credibility.

In another study Kraus[13] attempted to investigate the physical characteristics exhibited by an information source and what effects such characteristics had upon the receivers of the message. Specifically, he was attempting to see how effective individuals (Black or White) were in persuasiveness on segregation issues. Three films consisting of the following combinations of people: 1) Black-Black, 2) White-White, and 3) White-Black, were used by Kraus to compare the differences of influence by each pair on a White audience. The results indicated that arguments favorable toward integration were more persuasive when advanced by the heterogeneous pair. Kraus indicated that the subjects perceived the film version with heterogeneous pair as having a higher level of credibility than the films with homogeneous pairs.

Buck,[14] in a recent study, examined the influence of one variable, that of dialectal variation upon attitudes of White female college students. Her procedure involved selecting voices which were distinguishable as Black or White

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[13]Sidney Kraus, "An Experimental Study of the Relative Effectiveness of Negroes and Whites in Achieving Racial Attitude Change Via Kinescope Recordings," unpublished dissertation Iowa; Speech Monographs, XXVII (1960), pp. 87-88.

[14]Joyce F. Buck, "The Effect of Negro and White Dialectal Variations Upon Attitudes of College Students," Speech Monographs (May, 1968), pp. 181-186.

The selected sources made a three minute audio recording of a passage from "Alice in Wonderland." Buck indicated that the passage was selected because it was easily presented orally and that the structure of the words would allow phonetic variations to show up readily. Two dimensions of source credibility were measured in the study to determine the effectiveness of the various sources. The subjects were also requested to identify the skin color of each of the sources. The data reported in the study indicated that dialectal variations did affect the receivers' perceptions of source credibility. The competence dimension of credibility indicated that White sources were rated significantly higher than sources with a Black dialect. However, analysis of ratings on the trustworthiness dimension indicated that there was no difference between sources with a White dialect and sources with a Black dialect. Buck also reported that all subjects in the study correctly identified the skin color of the source.

Boone[15] in a more recent study attempted to determine how a White audience perceived the source credibility of both White and Black information sources based strictly upon vocal cues. In the study he selected the two following measurements for evaluating source credibility: 1) Believability of the message and 2) Voice Preference. The subjects

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[15] Arthur I. Boone, "The Influence of Voice Distinguishability on Source Credibility," (unpublished doctoral dissertation, Michigan State University, 1971).

for this study were also selected from a college population. The procedure was to develop two opposing scripts, of three minutes duration, concerning "Community Control of Schools". One script favored local control of schools while the other script was opposed to it. Four narrators were selected to record the Pro and Con scripts on audio tape. The narrators were selected from a pilot study on the basis of being identified as possessing either a distinguishable Black voice or a distinguishable White voice. Each narrator recorded both scripts. Eight sections of an undergraduate education course were assigned to listen to one of the eight tapes. All subjects of this study were members of the Caucasian race. The test instruments, two semantic differential scales were used to measure the two defined levels of source credibility. Boone reports the following conclusions from the analysis of his data:

1. When Caucasian undergraduate students are exposed to information communicated by Caucasian communicators, or Black communicators they generally give higher credibility to a Caucasian information source than they do to a BIack information source.

2. "Voice preference" is perceived more positively with voice sound associated with a Caucasian than with voice sound associated with a Black speaker.

3. Distinguishable voice sound associated with different Black speakers was perceived as having approximately the same level of credibility.

4. "Voice preference" was rated in a negative direction when associated with a distinguishable Black voice sound.

5. The perception of "voice preference" and "believability" was rated in a positive direction when associated with a distinguishable Caucasian voice sound.

6. The "believability" of a message can not be assured by the position a speaker takes on an issue.[16]

The literature reviewed in this section indicates that prestige is related in some way to the influence that information sources have on the receivers. The studies suggest that White information sources are generally considered to have more credibility and a higher level of prestige than Black information sources. The reader should keep in mind that all the studies cited in this section were conducted with a narrow range of subjects. These studies, with the exception of one, were conducted with college students as subjects. Of even greater importance it should be pointed out that measured responses were those of White subjects only. There is a complete lack of research pertaining to the perception of source credibility by the Black population.

Ethnic Dialect and Relationship to Source Effectiveness

Literature pertaining to ethnic dialect was deemed appropriate for inclusion in this chapter because the present study utilized aural cues associated with either White or Black individuals as one of the variables for investigation. Rosenthal[17] points out that little attention has been given

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[16] Ibid.

[17] Paul Rosenthal, "The Concept of Ethos and the Structure of Persuasion," Speech Monographs, XXXIII (June, 1966), pp. 114-126.

to the measurement of an information source's ethos based upon its phonemic pattern--a term which is related to "dialect." Of particular importance is the ethnic dialect research which examines dialectical variations involving tone, rate and articulation. Syntactical variations from standard dialect do not serve as variables in the present study; however, some of their implications are discussed in this section.

Investigators in education, psychology, linguistics and sociology have long believed that voice cues provide basic personal and social status information concerning sources. Gray and Wise in an early publication stated: "... much of what we have called personality is found, when it is carefully analyzed, to be resident in the voice."[18]

Harms[19] in a more recent report concluded that variables carried in a speech signal presented enough valid information for the receiver to determine the social status of the source. These results substantiate earlier findings by the same researcher. In that earlier study Harms[20] found that receivers from different social strata were capable of

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[18]Giles Wilkeson Gray and Claude M. Wise, The Bases of Speech (Revised Edition; New York: Harper and Brothers, 1946), p. 11.

[19]L. S. Harms, "Status Cues in Speech," Lingus, 12 (1963), pp. 301-314.

[20]L. S. Harms, "Listener Comprehension of Speakers of Three Status Groups," Language and Speech (1961), pp. 109-112.

rating the social status of an individual after hearing ten to fifteen seconds of a tape recorded speech. The receivers also consistently rated the high-status speakers as more credible than the low-status speakers.

Another study by Harms[21] shows that receivers' test scores are somewhat higher when the speakers are high in status than when they are low. The inferred reasons suggested for this result is that high status speakers are more "comprehendible." A further result, secured through a differential analysis of listener groups, is that listeners respond with greater comprehension to those from their own class than to speakers from either a higher or a lower class.

Voiers[22] found in a study that "extrastimulus factors" operated in the perceptual responses of the receivers to the voice stimuli of the source. Such factors included receiver biases toward stereotyped sounds. He concluded that the receivers' perceptions were based partially upon personal feelings and past history.

In a similar study Miller and Hewgill[23] found that the audience's perception of source credibility was negatively influenced as the number of "nonfluencies" were increased

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[21]L. S. Harms, "Social Judgments of Status Cues in Language," Speech Monograph, XXVII (1960), p. 87.

[22]William D. Voiers, "Perceptual Bases of Speaker Identity," Journal of the Acoustical Society of America (1964), pp. 1065-1073.

[23]Miller and Hewgill, op. cit., p. 37.

in a message given by an information source. Three dimensions of credibility were included in the measurement instrument: Competence, Trustworthiness, and Dynamism. Both the Competence and Dynamism factors of source credibility were negatively affected when the number of "nonfluencies" were increased. However, no difference was found on the trustworthiness factor. The findings by Miller and Hewgill provide evidence that audience perception of verbal cues does exercise influence on source credibility.

Several studies have shown that receivers can distinguish between Black voices and Caucasian voices based upon the variation in voice cues. Stroud[24] concluded that some undefined quality in the Black voice enabled judges to discriminate between recorded voices of Black and White students in 93 per cent of the cases.

Similar findings are found by Nerbonne.[25] He concluded from his data that receivers of a message can consistently differentiate between Black and Caucasian speakers. He also reports that this difference was detected more effectively on the basis of oral readings than on the basis of extemperaneous speech.

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[24]Robert Stroud, "A Study of the Relations Between Social Distance and Speech Differences of White and Negro High School Students of Dayton, Ohio," (unpublished Master's thesis, Bowling Green State University, 1961).

[25]Patrick G. Nerbonne, "Identification of Speaker Characteristics on the Basis of Aural Cues," (unpublished Ph. D. dissertation, Michigan State University, 1967), p. 114.

Still further support is indicated in a recent study by Boone.[26] He concludes that college age students can effectively distinguish between Black voices and Caucasian voices on prerecorded audio tape.

Hurst[27] has investigated the psychological and sociological correlates of dialect differences which are nonstandard and concluded that they have a negative effect on the psychological, educational, and vocational welfare of the individual. Anisfeld,[28] also found that listeners tend to be influenced negatively by stereotypes which are reinforced by the speech patterns of speakers.

In a study by Larson and Larson[29] on receiver reaction to pronunciation, it was found that the pronunciation patterns of Blacks were generally rated as more unpleasant, less educated, and less urbane than White pronunciations. Results of the study show that receivers tend to favor White pronunciation and they also rated such sources with a higher level of credibility. The receivers were able to distinguish between the White and Black speakers even when the

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[26]Boone, op. cit., p. 64.

[27]Charles G. Hurst, Psychological Correlates in Dialectolalia. Washington: United States Office of Education Cooperative Research. Project Number 2610, 1966.

[28]M. Anisfeld, "Evaluation Reaction to Accented-English Speech," Research Bulletin on Intergroup Relations (1962), pp. 1-3.

[29]Vernon S. Larson, and Carolyn H. Larson, "Reactions to Pronunciation," Communication Barriers to the Culturally Deprived. Washington: United States Office of Education Cooperative Research. Project No. 2107, 1966, pp. 52-58.

pronunciations were very similar. The authors concluded that there is some phonemic pattern that is identified with the Black speakers which allows for this distinction.

Educators have demonstrated a concern for the dialect that is used by a large percent of the Black minority. This major concern is mostly in relationship to substandard speech patterns involving syntactical variations, however, as reported earlier phonemic patterns are also of concern. In a 1963 article, Green referred to Negro dialect as the last barrier to integration.

> The problem of the American Negro who has been reared in a segregated community is that he has a dialect which constantly reminds his listener that he is a descendant of slaves. Regrettably this dialect has been popularized and stereotyped by the entertainment world through the old minstrel shows and such personalities as Stepin Fetchit, Amos n' Andy, and Rochester. Consequently the dialect itself is considered a joke by most Americans and anyone using such a dialect is not taken seriously.[30]

The position taken by Green however is not necessarily taken by all. Linguists conducting social dialect studies appear to be in increasing agreement on the existence of a Black dialect as a legitimate dialect of English. Even though some linguists consider it as a legitimate dialect, common acceptance will be slow. In fact, McDavid et al. reports that there may be an unconscious conflict of values

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[30]Gordon C. Green, "Negro Dialect, the Last Barrier to Integration," Journal of Negro Education, XXXII (Winter, 1963), pp. 81-83.

in the speaker of a non-standard dialect. It is stated that:

> ... it is possible for a lower-class speaker to participate in the full sociolinguistic structure of a speech community, and possess a good knowledge of the norms of careful speech, yet be unable or unwilling to use those forms in speech or writing.[31]

However, others suggest that a speaker of one dialect may have problems in processing information from a source with a different dialect. Cherry-Persach writes:

> In general, when the speaker of one dialect must process a verbal string from another dialect, the redundancy in that message is less for him than for a speaker of the dialect in which the string was presented. Or, since redundancy is inversely related to amount of information in that task is greater for him if it were presented in his own dialect. This describes the situation for many minority ethnic groups who have learned a non-standard dialect at home and are taught in the school by a teacher speaking a different dialect.[32]

The findings of these studies indicate that receivers can consistently determine the social status of an individual based upon his speech. Also, several studies show that a very high percent of Black speakers can be distinguished by some undefined phonomic quality. These same studies suggest that aural cues denoting race of the source generally serve to diminish the credibility of a Black source. Some of these studies also give an indication that a person will respond

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[31]Raven I. McDavid Jr. and William M. Austin. Communication Barriers to the Culturally Deprived. Washington U. S. Office of Cooperative Research. Project No. 2107, (1966), p. 23.

[32]Estelle Cherry-Persach, "Children's Comprehension of Teacher and Peer Speech," Child Development, Vol. 30 (1965), PP. 468-480.

more favorably to speakers of their own social class while others deny this.

Racial Bias

The literature in the area of racial bias is reviewed in this section because of its special implication for the present study. It is of most importance that the reader keep in mind that source credibility is measured in terms of receivers' perceptions. This body of research gives some indication as to how reference group membership may influence its member's responses to various information sources.

It has been suggested that the perceived prestige of the information source significantly affects the influence that it has upon receivers. Kumata states:

> The higher the perceived prestige, trustworthiness, or expertness of the communicator, the greater the influence toward the position advocated in the message.[33]

Our society has produced differential effects in regards to how the prestige of sources of different races are perceived by both Black and White children. Children at an early age learn the predominant racial feeling in America of "white over black, with the line between."[34] In a study of

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[33]Hideya Kumata, "Attitude Change and Learning as a Function of Prestige of Instructor and Mode of Presentation." The Impact of Educational Television: Selected Studies from the Research Sponsored by the National Educational Television and Radio Center. Edited by Wilbur Schramm. Urbana: University of Illinois Press, 1960.

[34]Mary Ellen Goodman, Race Awareness in Young Children (New York: Collier Books, 1964), p. 256.

New England children, Goodman[35] found White children to be in-group oriented. They were basically oriented toward the White group and were without any racial self-doubt such as found in Black children. The Black children were out-group oriented as was evident by their "sense of direction" away from Blacks and toward Whites. Similar findings were reported by Morland[36] in his study of preschool children in Virginia, and also by Stevenson and Stewart.[37] They found that while White children tended to prefer members of their own racial group, Black children tended to have a preference for the White group also.

In a study involving mixed Black-White classes, Criswell[38] found marked cleavage between Blacks and Whites. She found White children beginning to withdraw from Black children by fourth grade and forming racial groups by fifth grade.

Radke, Sutherland, and Rosenberg[39] studied White and Black children from grades two to six with the use of projective pictures and sociometric data. Their results indicated

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[35] Ibid.

[36] J. K. Morland, "Racial Recognition by Nursery School Children in Lynchburg, Virginia," Social Forces, Vol. XXXVII (1958), pp. 134-37.

[37] H. W. Stevenson and E. C. Stewart, "A Developmental Study of Racial Awareness in Young Children," Child Development, Vol. XXIX (1958), p. 408.

[38] Joan H. Criswell, "A Sociometric Study of Race Cleavage in the Classroom," Archives of Psychology (1939), p. 235.

[39] Marion J. Radke, Jean Sutherland, and Pearl Rosenberg, "Racial Attitudes of Children," Sociometry, Vol. XIII (1950), pp. 154-71.

that White children assigned almost no undesirable characteristics toward their own race while Black children assigned undesirable characteristics to Black pictures. White children at all ages expressed definite preferences for their own racial group. Radke and Trager[40] tested 152 White and 90 Black children in six Philadelphia schools. They used interview and doll techniques with children in kindergarten to second grade. Their findings showed that 89 per cent of the White children preferred a White doll, while 57 per cent of the Black children preferred a Black doll. The White children tended to ascribe inferior social roles to Blacks.

Similar findings were reported from a study conducted in Minneapolis involving third, fourth, and fifth-grade children.[41] It was found that White children expressed biased feelings toward Blacks. The Black children, however, held more favorable attitudes toward White children than they did toward Black children. Some scholars such as Erikson[42] and Pettigrew,[43] however, believe that the negative

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[40]Marion J. Radke and Helen G. Trager, "Children's Perceptions of Social Roles of Negroes and Whites," Journal of Psychology, Vol. XXIX (1950), pp. 3-33.

[41]C. Bird, E. E. Monachesi, and H. Burdick, "Infiltration and the Attitude of White and Negro Parents and Children," Journal of Abnormal and Social Psychology, Vol. XLVII (1952), pp. 695-96.

[42]Erik H. Erikson, "The Concept of Identity in Race Relations," Daedalus, XCV (Winter, 1966), pp. 145-170.

[43]Thomas F. Pettigrew, A Profile of the Negro American (Princeton, N. J.: Van Nostrand, 1964), pp. 6-11.

attitude that Blacks have had toward their racial group is in the process of change. They see the current Black Pride movement as having a positive influence on the Black racial group.

An interesting contrast with the racial preference and bias research is found in a number of studies in which the race of the experimenter was used as a variable in determining how well subjects responded on a cognitive task or performed a psychomoter skill.

Katz, Henchy, and Allen[44] report a study in which 148 Black boys aged seven through ten, were tested to determine their performances on a paired-associates learning task. Each boy viewed ten pairs of pictures of familiar objects. During the initial presentation series, each boy was instructed to call out the name of each object as it was shown. Then he was given ten trials in which he had to call out the names of both stimuli as soon as the first picture of the pair was shown. Each boy was tested individually by one of four examiners, two of whom were White and two of whom were Black. Subjects who were tested by the Black examiners did significantly better at the verbal learning task than the subjects tested by White examiners.

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[44] Irwin Katz, Thomas Henchy, and Harvey Allen, "Effects of Race of Tester, Approval-Disapproval, and Need on Negro Children's Learning," Journal of Personality and Social Psychology, VIII (January, 1969), pp. 38-42.

Kennedy and Vego[45] investigated the proficiency of Black children who performed a discrimination task. Two variables, race of the experimenter and type of verbal reinforcement, were employed in this research. These Black children's performance improved more markedly when the experimenter was Black than when the experimenter was White. There was no difference between the performance of subjects praised by White experimenters and that of subjects praised by Black experimenters. When the proficiency of the Black children was criticized by the experimenter, however, there was a decrease in the performance of those subjects tested by the White experimenters and an increase for subjects tested by Black experimenters.

Allen, Dubanoski, and Stevenson[46] employed a psychomotor skill, a marble drop, for an experiment involving Black and White boys in grades one and two, and four through six. Black subjects had significantly higher rates of response when tested by Black experimenters than when tested by White experimenter, while White subjects had higher rates of response when tested by White experimenters than when tested by Black experimenters.

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[45]Wallace A. Kennedy and Manuel Vego, "Negro Children's Performance on a Discrimination Task as a Function of Examiner Race and Verbal Incentive," Journal of Personality and Social Psychology, II (December, 1965), pp. 839-843.

[46]Sara A. Allen, Richard A. Dubanoski, and Harold W. Stevenson, "Children's Performance as a Function of Race of E, Race of S, and Type of Verbal Reinforcement," Journal of Experimental Child Psychology, IV (November, 1966), pp. 248-255.

The racial bias research suggests that the Black race is perceived by both White and Black individuals as a less prestigious race. The White race is given a higher preference rating in various studies by both races. However, there is some indication that the Black ethnic group is currently developing into a more prestigious race than it has been in the past. Also, the literature indicates that subjects from the Black race and the White race respond more favorably to experimenters of their own race than to experimenters of the opposite race.

CHAPTER III

DESIGN OF THE STUDY

Introduction

In this chapter, the determination of the population, the nature of the stimulus material and the data collection instruments are described. The specific procedures, experimental design, method used for statistical analysis, and the research hypotheses are also reported.

The Sample

The subjects that participated in this study were selected from a population comprised of the sixth-grade pupils attending a single public elementary school within a midwestern city of 200,000. This school was selected because it had a high percentage of both White and Black pupils. The actual racial composition of the school was approximately 62% Black pupils, 38% White pupils and less than 1% other minority groups. The school's enrollment consisted of pupils from the residential area. All students lived within walking distance to the school.

The school's population of sixth graders numbering 186 was divided into two groups, one White, the other Black.[1]

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[1]Four students were excluded from the population because they were neither Black or White.

Sixty White students and sixty Black students were randomly selected from the population and then randomly assigned appropriately to one of the six treatment groups. Three additional subjects from each of the two races were selected by the sampling procedure mentioned above. These students served as a replacement group. Actually, one White replacement and two Black replacements were used.

Design and Analysis

The design of the study and the treatments are summarized in Figure 1.

The main effect and interaction effect of the voices, the three sets of visuals and the race of subjects were analyzed with a 3 x 2 x 2 multivariate analysis of variance design. Six different treatment groups with two sets of subjects created twelve cells for study. Each cell within the design contained an equal number of subjects, ten. Five separate analyses were performed using the measurements of: 1) "trustworthiness," 2) "expertness," 3) "concept acceptability," 4) "preference," and 5) "retention of message."

A multivariate analysis of variance was employed to determine simultaneously if significant difference existed between the mean scores of the different treatments on the various attitude measurements. A multivariate analysis of variance with a covariable was used with the retention test. The .05 level of significance was selected for rejecting the null hypotheses.

Audio	Black Voice			White Voice		
Visuals	W*	B*	C*	W*	B*	C*
White Subjects	10	10	10	10	10	10
Black Subjects	10	10	10	10	10	10

Dependent Variables

"Retention of Message" Scale

"Trustworthiness" Scale

"Expertness" Scale

"Preference" Scale

"Concept Acceptability" Scale

W*--visuals depicting all White people

B*--visuals depicting all Black people

C*--visuals depicting a combination of White and Black people.

Figure 1. Design of the study.

The data were punched on computer cards and analyzed at the Michigan State University Computer Center. A program by Jeremy D. Finn[2] with modifications for the Control Data Corporation 3600 and 6500 computer system was used.

[2]Office of Research Consultation School for Advanced Studies College of Education Michigan State University, "Univariate and Multivariate Analysis of Variance and Covariance: A FORTRAN IV Program," by Jeremy D. Finn (Michigan State University, March, 1970), pp. 1-19.

Stimulus Material

An instructional sound-slide presentation served as the stimulus material (information source) in this study. The original form of the presentation was entitled, Drug Misuse and Your Health,[3] produced by the Society for Visual Education Company. The material was intended for students in the intermediate grades and junior high school. The material was obtained in a filmstrip-record format. Fifty-three separate visuals and a sound recording running approximately 18 minutes made up the presentation. Thirteen visuals contained charts and other non-human elements. The remaining forty visuals did contain drawings of one or more people. Small details indicating various facial characteristics provided a realistic image.

Selection of the stimulus material was based on two major criteria. First, the topic had to be appropriate for both races. Drug abuse, a current topic affecting people of every race and economic level was chosen. A second criterion was that the message had to be persuasive and had to elicit a range of opinions and attitudes. The element of persuasion was needed to measure the trustworthiness level of credibility.

The original version of the presentation contained the voice of a White speaker and visuals depicting people of

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[3]Society for Visual Education, Inc., Drug Misuse and Your Health (Chicago: Society for Visual Education, Inc., 1970), 53 frames.

the White race. This made it necessary to modify the materials so that they would be suitable for the study. The following sets of visuals and recorded voices were needed:

Audio

1. a distinguishable White voice
2. a distinguishable Black voice

Visual

1. visuals with all White people
2. visuals with all Black people
3. visuals with both White and Black people

The format that was used for the experimental presentation was a 2 x 2 slide/audio tape. The 2 x 2 slide/audio tape format represented a change from the original filmstrip and record format.

Development of Audio Segment of the Presentation (selection of voices)

The audio portion of the stimulus material required two versions of the sound track. The vocal characteristics of a White individual and a Black individual were recorded separately for use in the experiment. To facilitate this strategy, four White male individuals and four Black male individuals in graduate school at Michigan State University were selected to participate in the study. The eight people selected were asked to record a brief reading of approximately 30 seconds. The recordings were later presented in a pilot study to a sample of students very similar to the experimental group. The pilot group consisting of twenty-five pupils was used to determine whether the voices could be

distinguished as those belonging to either White or Black individuals.

A short narrative passage was considered adequate because past research indicates that voice distinctiveness can be recognized by listening to the reading of a passage of 15 seconds-or-less. It was deemed appropriate that the passage contain an informative message for students of the sixth grade and also that it have an interest level high enough to hold their attention through eight playings of the same passage. A passage entitled, A Tapestry of Dreams (see Appendix A), by Clara Ingram Judson, was selected from a popular sixth grade reading text.[4]

Each reader was asked to practice the reading until he felt familiar with the passage. Then each of the eight script readers recorded the passage on an audio tape. A master tape to be used in the pilot study was produced from the readers' original tapes. The voices were randomly assigned to the master tape in an attempt to avoid establishing an apparent sequence.

A five step rating scale was employed to collect data from the sample group concerning their perceptions of the various speakers (see Appendix B). This rating scale was

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[4]Helen M. Robinson, Marion Monroe, A. Sterl Artley, and Charlotte S. Huck, The New Basic Reader: Cavalcades (Chicago: Scott, Foresman & Company, 1965), p. 94.

revised from an instrument developed by Boone[5] for determining distinguishable Black and White voices. Below is a representation of the scale used for each voice:

_____ 1. Sounds clearly distinguishable as a Black speaker.

_____ 2. Sounds like a Black speaker.

_____ 3. Sounds indistinguishable.

_____ 4. Sounds like a White speaker.

_____ 5. Sounds clearly distinguishable as a White speaker.

A sample of twenty-five pupils was randomly selected from the pilot study's population to listen to the master tape containing the eight voices. A tape recorder had been placed in a classroom before the students entered. The students were told that their assistance was needed to see if it were possible to distinguish the race of a speaker by just hearing a recording of the individual's voice. They were informed that the data would be analyzed for future use in the selection of voices for narrators of instructional materials. The rating scale for each voice was distributed to the twenty-five students and was followed with instructions for the proper marking of the instrument. After the instructions were given, a time was allotted for questions. The master tape was played for the subjects beginning with

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[5]Arthur I. Boone, "The Influence of Voice Distinguishability on Source Credibility," (unpublished doctoral dissertation, Michigan State University, 1971), p. 111.

the first voice and continuing through to the last. When each speaker finished reading the passage the tape recorder was stopped. After the recorder was stopped, the subjects were asked to check one of the five appropriate spaces on the instrument based upon their perceptions. At the end of the eighth voice the instrument was collected for analysis.

The data for the instrument were obtained by computing the mean score of the 25 subjects for each voice. The range of possible mean scores was from 1.0 to 5.0. The lower mean score ranging from 1.0 to 2.0 indicated that the subjects perceived the voice to be a distinguishable Black voice and a score of 4.0 to 5.0 indicated that the subjects perceived the voice as a distinguishable White voice.

A mean score of not more than 2.0 had been set as the criterion for determining a distinguishable Black voice, while a mean score of not less than 4.0 was set as the criterion for determining a distinguishable White voice. An analysis of the data showed that all four White voices received a rating of not less than 4.0 and that all Black voices received a rating of not more than 2.0. This indicated that the subjects were able to perceive correctly the race of each speaker by hearing a recording of the individual's voice. Table 3.1 presents a summary of mean scores for each speaker as perceived by the subjects.

TABLE 3.1--Mean Scores on Voice Perception.

Voices	Mean
White #1	4.76
Black #1	1.24
White #2	4.60
Black #2	1.32
White #3	4.56
Black #3	1.20
White #4	4.64
Black #4	1.16

It was further determined that the two distinguishable voices selected for the study needed to have similar voice qualities. In order to make the final selection for a distinguishable Black voice and a distinguishable White voice a panel of speech teachers was consulted. The panel consisted of four speech teachers who were at the time engaged in teaching. All four had Master's degrees in Speech.

The four speech teachers were asked to listen to the same master tape that the subjects listened to during the pilot study. The speech teachers rated each speaker on an instrument (see Appendix C) containing scales suggested by Oliver and Cortright to measure listener's response.[6]

[6]Robert T. Oliver and Rupert L. Cortright, Effective Speech (4th ed.; New York: Holt, Rinehart and Winston, 1965), pp. 91-96.

The scale used by the speech teachers to determine voice quality was:

1 2 3 4 5 Sense of Communication.
1 2 3 4 5 Pleasantness of Pitch.
1 2 3 4 5 Pronunciation.
1 2 3 4 5 Voice Variation.
1 2 3 4 5 Speaking Rate.
1 2 3 4 5 General Effectiveness.

The rating by the speech teachers indicated a wide range of quality in the eight voices. Table 3.2 gives the total score for each voice. The higher total scores represent a higher quality of voice as perceived by the panel of speech teachers.

TABLE 3.2--Total Score for Voice Quality.

Voices	Total Score
White #1[a]	104
Black #1	56
White #2	115
Black #2	97
White #3	106
Black #3[b]	100
White #4	82
Black #4	84

[a]White voice that was selected to narrate the tape/slide presentation used in the experimental treatment.

[b]Black voice that was selected to narrate the tape/slide presentation used in the experimental treatment.

The two voices (White #1 and Black #3) selected for the experimental treatment had a slightly wider spread than was found in two other voices (White #4 and Black #4). However, it was determined that the differences were slight and were so selected because their ratings were of a much higher quality than the other voices.

Development of Audio Segment of the Presentation (recording the stimulus for the experiment)

Each of the two individuals selected for making the final recording of the stimulus material was provided with a script (see Appendix D) one week before the recording session. This time period allowed them to become familiar with the script and its demands. Instructions were given to both individuals to read the script in as normal a manner as possible. Both voices were recorded on the same day. This recording was done under the supervision of a professional sound technician.

The original recordings of the two voices were duplicated onto audio cassettes in order to facilitate the testing procedure. The recording of the voice was placed on one channel and an inaudible synchronous pulse was placed on the second channel. This allowed for the slides and audio tape to be synchronized so that there would be no difference in the presentation rate for each treatment group.

Development of Visual Segment of the Presentation

The experiment required three sets of visuals: 1) visuals depicting all people as White, 2) visuals depicting all people as Black, and 3) visuals depicting both White and Black individuals. The original presentation depicted most all individuals as White. This necessitated the construction of two additional sets of visuals.

One major factor was the necessity of keeping all variables in the visuals the same, with the exception of race. Thirteen of the existing visuals did not contain any people and were therefore directly copied onto 2 x 2 slides which were used in each of the three sets of slides. The remaining forty visuals, however, had to be specifically adapted for the experiment. These forty frames of the filmstrip were sent to the Eastman Kodak Company where a 5 x 7 color print was made of each. The next step was to obtain the assistance of a professional graphics artist to make further adaptations of these pictures. A graphics artist, who possessed a wide experience in drawing facial characteristics of the Black race was employed. A face representing a Black individual was produced for each person depicted in the visuals.[7] Matching expressions were drawn for each of the three sets of visuals in order to make them as similar as possible except for facial features. The reconstructed set of Black

[7]Also, visible skin characteristics of appendages were reproduced.

...acteristics were produced slightly larger than the ...ginals so that when cut out they would fit directly into ... on the 5 x 7 color print.

To keep the three visual sets consistent, the White ...sion, the Black version, and the mixed version, all were ...ed onto 2 x 2 slides from the same 5 x 7 color print ... a 35mm single lens reflex camera. This was accomplished ...placing the cutout images onto the 5 x 7 prints in the ...er sequence. A sheet of clear glass was placed on top ... the cutouts and the 5 x 7 prints to hold them in place so ... no ridges would show during the projection of the slides. ... group of three graduate students checked the slides for ... errors (see Appendix E for selected slides from the ...entation).

Instrumentation

Six instruments were employed to collect the needed ... for this study. Each of the six instruments are dis-...ssed in the section that follows.

...tention Test

A pilot study was conducted prior to the experiment in ...der to construct the retention test. An assessment of ... knowledge level of sixth grade students concerning drug ... was made by consulting teachers at that level. From ... information a 34 question multiple-choice test (see ...pendix F) was constructed.

Sixty students (50% White and 50% Black) from the sixth grade were randomly selected from a population similar to the experimental group. The stimulus material was presented to this group in the original filmstrip record format. After the presentation the 34 question retention test was administered. The data from this test were then submitted to an item analysis in order to determine the index of discrimination and the index of difficulty for each question. The questions for the experimental test needed to have a difficulty level (percentage of the total group making a wrong answer) of 35% to 60% and a discrimination index (percentage difference between the top 27% and the bottom 27%) as high as possible.[8] (See Appendix F for discrimination and difficulty index on each question.)

A second group of twenty-five students was randomly selected from the same population. The same retention test was administered to this group of students. However, they were not shown the stimulus material. The non-stimulus group was used to compare the difference between knowledge already possessed and knowledge gained from the information source. (See Appendix F for percentage difference between stimulus group and non-stimulus group.)

Twenty questions were eventually selected from the pilot study (see Appendix G) for the experimental retention

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[8]Michigan State University, "Item Analysis" (Michigan State University, Office of Evaluation Services, October, 1970), p. 5.

...t. The questions were selected on three bases: ...difficulty index, 2) discrimination index, and 3) degree ...discrimination between stimulus group and non-stimulus ...up. Fifteen of the twenty questions met the criteria ...ted above. The other five items in the retention test ...e questions of little difficulty. These questions were ...t in the test in an effort to reduce the possibility of ...eating frustration for students who otherwise might miss ...st of the answers.

A reliability analysis using the Hoyt Estimate of ...eliability Formula[9] was performed on the retention test and ...s reported in Table 3.3. For the purpose of analysis the ...bjects' scores on the retention test were determined by ...e number correct. The scores ranged from eighteen to six.

TABLE 3.3--Internal Reliability Analysis of the Retention Test.

...ource	d.f.	Sum of Squares	Mean Squares	Reliability
...ndividuals	119	192.8414	1.6206	.7866
...tems	19	406.2424	21.3811	
...rror	2261	7256.0012	3.2092	
...otal	2399	7855.0850		

[9]C. J. Hoyt, "Test Reliability Estimated by Analysis of ...ariance," Psychometrika, Vol. 6 (1941), pp. 153-60.

Semantic Differential Scales

Three semantic differential scales (see Appendix H) were developed for this study. One scale was designed to measure the "trustworthiness" dimension of source credibility. A second scale was designed to measure the "expertness" dimension of source credibility. The third scale was designed to measure the subjects' "concept acceptability" of the message presented by the information source.

During the past decade the semantic differential has come to be recognized as a reliable and valid instrument for measuring attitude and attitude change. The semantic differential technique was developed by Osgood, Suci, and Tannenbaum[10] to measure the cognitive meaning of concepts as points in what is called "semantic space." In the past decade the semantic differential has received broad and extensive use in communication research.[11] More specifically, the validity of the technique for measuring source credibility is widely acknowledged.[12]

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[10]Charles E. Osgood, George J. Suci, and Percy H. Tannenbaum, The Measurement of Meaning (Urbana, Illinois: University of Illinois Press, 1957), p. 37.

[11]Ibid., pp. 272-32.

[12]David K. Berlo, James B. Lemert, and Robert Mertz, "Dimensions for Evaluating the Acceptability of Message Sources," The Public Opinion Quarterly, Vol. 33 (Winter, 1969-70), p. 563.

DiVesta and Dick[13] established the reliability of the semantic differential for elementary students. They found the correlation between test-retest evaluation factors for sixth graders to be .87. DiVesta also found that the child's possessive use of modifiers at the third grade level and above corresponded closely with those of the adult.[14]

All three semantic differential scales were designed according to the principles and construction techniques suggested by Kerlinger[15] and Osgood.[16] A five-step scale was employed in this study rather than the seven-step scale most often found. Osgood[17] suggests that grade school children seem to work better on a five-step scale than the seven-step scale.

Bi-polar adjective pairings for the two semantic differentials to measure "trustworthiness" and "expertness" were selected from previous source credibility factor analytical research by Berlo and Lemert[18] (see Table 3.4).

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[13]France I. DiVesta and Walter Dick, "The Test-Retest Reliability of Children's Ratings on the Semantic Differential," Educational and Psychological Measurement, Vol. XXVI, No. 3 (1966), pp. 605-16.

[14]James G. Snider, and Charles E. Osgood, Semantic Differential Technique: A Sourcebook (Chicago: Aldine Publishing Company, 1969), pp. 386-87.

[15]Fred N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, Inc., 1964), pp. 564-580.

[16]Osgood, Suci, op. cit., pp. 80-85

[17]Ibid., p. 85.

[18]Berlo, op. cit., pp. 568-569.

TABLE 3.4--Factor Loading for "Trustworthiness" and "Expertness" Scales from Research by Berlo and Lemert.

Dimension	Scale	Factor Loading
Trustworthiness		
	Believable-Unbelievable	72
	Right-Wrong	77
	Correct-Incorrect	73
	Reasonable-Unreasonable	81
	Dependable-Undependable	71
	Honest-Dishonest	79
Expertness		
	Effective-Ineffective	68
	Successful-Unsuccessful	69
	Expert-Ignorant	81
	Capable-Incapable	79
	Intelligent-Unintelligent	73
	Powerful-Powerless	71

The bi-polar adjectives selected for measuring the subjects' attitudes toward the "concept acceptability" of the message were selected from items validated by Osgood's research.[19]

The scoring on the semantic differentials was done by assigning a value of from one to five for each pair of adjectives. The most positive end of the scale was assigned five and the most negative end of the scale was assigned one.

[19]Osgood, Suci, and Tannenbaum, op. cit.

Each of the three semantic differentials contained six sets of bi-polar scales. By summing all six scales, a range of scores from six to thirty was provided, with higher scores being more positive.

A reliability analysis using Hoyt Estimate of Reliability Formula[20] was performed on each of the three semantic differential scales. The results are reported in Table 3.5.

TABLE 3.5--Internal Reliability Analysis of the Semantic Differentials Scales.

Source	d.f.	Sum of Squares	Mean Square	Reliability
Trustworthiness Scale				
Individual	119	170.6611	1.4341	.6226
Items	5	65.9444	13.1888	
Error	595	322.0556	.5412	
Total	719	558.6611		
Expertness Scale				
Individual	119	303.1653	2.5476	.7790
Items	5	13.4736	2.6947	
Error	595	335.0264	.5630	
Total	719	651.6653		
Concept Acceptability Scale				
Individual	119	221.4986	1.8613	.6630
Items	5	53.2569	10.6514	
Error	595	373.2431	.6273	
Total	719	647.9986		

Attitude Instrument for Preference

The attitude measurement for "preference" (see Appendix I) consisted of six questions. The six questions were seeking

[20]Hoyt, op. cit.

the students' reactions toward the information source. Specific questions about both the visual and audio channels of the information source were developed. The instrument was developed with the assistance of a sixth grade teacher and a member of the Michigan State University's Educational Research Department. The instrument was first tried during the pilot study and revised. The attitude scale was given a value of one to five for each of the six questions. The most positive end of the scale was assigned five and the most negative end of the scale was assigned one. By summing all six questions a range of scores from six to thirty was obtained. A reliability analysis using Hoyt Estimate of Reliability Formula[21] was performed on the attitude measurement for preference and is reported in Table 3.6.

TABLE 3.6--Internal Reliability Analysis for "Preference" Scale.

Source	d.f.	Sum of Squares	Mean Squares	Reliability
Individual	119	193.4653	1.6257	.7903
Items	5	11.2736	2.2547	
Error	595	202.8930	.3409	
Total	719	407.6319		

[21]Hoyt, op. cit.

Grade equivalency scores were employed as covariables with all instruments used in the study. These scores were obtained from the SRA Achievement Series: Multilevel Edition, for grades four through nine.[22] Composite scores are obtained from the Social Studies, Science, Language Arts, and Arithmetic parts of the test. The SRA Achievement Test is designed to provide a reliable measurement for a wide range of individuals and group differences.

Ethnic Group Identification Check Sheet

At the conclusion of the experimental treatment, the subjects were given a check sheet (see Appendix J) to mark the identification of the correct race of the speaker. This instrument was used to validate that the subjects did perceive the speakers correctly.

Procedure

All data for this study were collected from sixth grade classes of a single elementary school. The data were collected by employing the services of three sixth grade teachers from the school to serve as proctors.

The three sixth grade teachers met with this writer two days before the experiment. This meeting was used to

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[22]Science Research Association, Inc., "SRA Achievement Series: Organizing Your Local Testing Program" (Chicago: Science Research Associates, Inc., 1968), pp. 1-4.

familiarize the teachers with the stimulus materials, equipment, and data collecting instruments. The three teachers were used instead of one researcher for several reasons. First, it would enable the data to be collected in a single day, thus minimizing the disturbance of classes. A second reason for using three people to administer the treatments was to eliminate any socialization of subjects between treatments that could occur over a period of days.

The plan was to have sixty students (30 White and 30 Black), who had been randomly assigned to the six treatments, go to one of three classrooms. Each of the six treatment groups contained ten Black subjects and ten White subjects. During this time the remainder of the sixth grade pupils remained with three other sixth grade teachers. At the completion of the first three treatments the next set of sixty subjects were brought to their respective treatment groups for the experiment. While the subjects were changing rooms, the teachers, serving as proctors, made the appropriate changes in the stimulus material. Below is the arrangement for conducting the six treatments.

Teacher-Proctor	Subjects	Treatment
#1	10 White, 10 Black	White Voice/White Visuals
#2	10 White, 10 Black	Black Voice/Black Visuals
#3	10 White, 10 Black	White Voice/Mixed Visuals
#1	10 White, 10 Black	Black Voice/White Visuals
#2	10 White, 10 Black	White Voice/Black Visuals
#3	10 White, 10 Black	Black Voice/Mixed Visuals

The necessary equipment, a cassette tape recorder and a slide projector, was set-up in each of the three experimental rooms in the morning before school started. After the subjects reported to their designated treatment rooms the teacher-proctor read a set of instructions (see Appendix K) describing the purpose of the project. At the completion of the introductory statement the respective stimulus material was presented to the subjects.

After the presentation was over the teacher-proctor explained how to use the semantic differential scales. This was done by reading a set of instructions (see Appendix L) and using a diagram previously placed on the chalkboard. A short time was allowed to clarify questions. The three semantic differential scales were then distributed to the subjects. Each scale on the semantic differentials was read to the students. It was decided to have the proctor read the scales aloud to reduce the difficulty some subjects might have in reading it themselves. The proctors were instructed to read the questions only once so that the treatments would be the same.

The attitude "preference" scale was next given to the subjects. The proctor once again read the instructions and then allowed time for questions. Each question on this instrument was also read to the subjects.

After all attitude instruments were completed, the retention test was distributed to the subjects. The retention test was given last so that its ease or difficulty

would not affect the subjects' attitude toward the information source. Each of the twenty questions on the retention test was read one at a time to the subjects.

Upon completion of the instruments listed above the ethnic check sheet for identification of voice sound was administered to the students.

Statistical Hypotheses

To evaluate the effectiveness of the various information sources, seven statistical hypotheses were generated and tested. Each null hypothesis tested is presented first, followed by an accompanying alternate hypothesis.

Null Hypothesis 1. There will be no difference between the mean score of subjects who receive a message from an information source with a distinguishable White voice and the mean score of subjects who receive a message from an information source with a distinguishable Black voice when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.
5. "retention of message" scale.

Alternate Hypothesis 1. There will be a difference between the mean score of subjects who receive a message from an information source with a distinguishable White voice and the mean score of subjects who receive a message from an information source with a distinguishable Black voice when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.
5. "retention of message" scale.

Null Hypothesis 2. There will be no difference in the mean score of subjects who receive a message from an information source with visuals depicting all White people, the mean score of subjects who receive a message from an information source with visuals depicting all Black people, and the mean score of subjects who receive a message from an information source depicting a combination of both Black and White people when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.
5. "retention of message" scale.

Alternate Hypothesis 2. There will be a difference in the mean score of subjects who receive a message from an information source with visuals depicting all White people, the mean score of subjects who receive a message from an information source with visuals depicting all Black people, and the mean score of subjects who receive a message from an information source depicting a combination of both Black and White people when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.
5. "retention of message" scale.

Null Hypothesis 3. There will be no difference between the mean score of the White subjects and the mean score of the Black subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.
5. "retention of message" scale.

Alternate Hypothesis 3. There will be a difference between the mean score of the White subjects and the mean score of the Black subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.
5. "retention of message" scale.

Null Hypothesis 4. There will be no two-way interaction between the race of the subjects and an information source with a distinguishable White voice or an information source with a distinguishable Black voice as indicated by the mean scores of the subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.
5. "retention of message" scale.

Alternate Hypothesis 4. There will be a two-way interaction between the race of the subjects and an information source with a distinguishable White voice or an information source with a distinguishable Black voice as indicated by the mean scores of the subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.
5. "retention of message" scale.

Null Hypothesis 5. There will be no two-way interaction between visuals depicting all White people, or visuals depicting all Black people, or visuals depicting a combination of White and Black people and a distinguishable White or Black voice as indicated by the mean scores of the subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.
5. "retention of message" scale.

Alternate Hypothesis 5. There will be a two-way interaction between visuals depicting all White people, or visuals depicting all Black people, or visuals depicting a combination of White and Black people and a distinguishable White or Black voice as indicated by the mean scores of the subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.
5. "retention of message" scale.

Null Hypothesis 6. There will be no two-way interaction between the race of the subjects and an information source with visuals depicting all White people, or an information source with visuals depicting all Black people, or an information source with a combination of White and Black people as indicated by the mean scores of the subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.
5. "retention of message" scale.

Alternate Hypothesis 6. There will be a two-way interaction between the race of the subjects and an information source with visuals depicting all White people, or an information source with visuals depicting all Black people, or an information source with a combination of White and Black people as indicated by the mean scores of the subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.
5. "retention of message" scale.

Null Hypothesis 7. There will be no three-way interaction with the race of the subjects and an information source with a distinguishable White voice or a distinguishable Black voice and visuals depicting all White people, or visuals depicting all Black people, or visuals depicting a combination of both Black and White people as indicated by the mean scores of the subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.
5. "retention of message" scale.

Alternate Hypothesis 7. There will be a three-way interaction with the race of the subjects and an information source with a distinguishable White voice or a distinguishable Black voice and visuals depicting all White people, or visuals depicting all Black people, or visuals depicting a combination of both Black and White people as indicated by the mean scores of the subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
2. "preference" scale.
4. "concept acceptability" scale.
5. "retention of message" scale.

Summary

One hundred eighty-six sixth graders were divided into two groups according to race. Subjects were then randomly selected, thirty from the group of White pupils and thirty from the group of Black pupils and then randomly assigned to one of the six experimental treatment groups. Each of the six treatment groups consisted of ten Black subjects and ten White subjects. All groups received the same message from a different information source with variations only in the voice of the narrator and the race of the people depicted in the visuals. The information sources were in an audio tape/2 x 2 slide format.

After the presentation was over, the proctors administered to the subjects three semantic differential scales, one attitude preference scale, and a retention test. The scales were all read to the subjects by one of the three teacher-proctors.

A multivariate analysis of variance and an analysis of covariance were employed to determine the main effect and the interaction effect of the race of the voice, the three sets of visuals, and the race of the subjects. To evaluate these effects seven null hypotheses were generated and tested. A significance level of .05 was selected for the study.

CHAPTER IV

ANALYSIS OF DATA

The statistical hypotheses for the main effect and the interaction effect were tested using a multivariate analysis of variance on the attitude scales and an analysis of covariance on the retention test. Grade equivalency scores on the SRA achievement test were used as the covariable. Data from the three semantic differential scales, an attitude preference scale and a retention test were used as the dependent variables. The independent variables were race of subjects, race of voice, and race of visuals. All hypotheses were tested using the .05 alpha level with the appropriate degrees of freedom.

Analysis of Data

Since the data for this study were analyzed with two different statistical procedures, the null hypotheses will be first stated for the retention test and then again for the attitude scales.

An analysis of covariance was employed to determine the effect of the independent variables in relationship to the retention test. The total number of items answered

correctly out of a possible twenty was used in the analysis. The scores ranged from a high of eighteen to a low of six. A summary of the analysis of group means is reported in Table 4.1.

TABLE 4.1--Group Means for the Retention Test.

	Visuals	White Subjects	Black Subjects
White Voice	White	13.5	12.2
	Black	14.0	11.8
	Mixed	13.5	12.4
Black Voice	White	13.7	12.0
	Black	13.5	11.6
	Mixed	13.3	11.5

An analysis of the usefulness of the covariate on the retention test resulted in an F-ratio of 33.00 (degrees of freedom 1 and 107) which was significant at the P = .0001 level.

An analysis of covariance was then performed on each of the seven testable hypotheses for the retention test. A summary of the analysis of covariance for the retention test is reported in Table 4.2.

TABLE 4.2--Analysis of Covariance on Retention.

Source	d.f.	M.S.	F-Value	Probability
Voice	1	2.0211	0.3409	.5606
Visual	2	0.0855	0.0144	.9857
Race of Subjects	1	14.4357	4.1213	.0449*
Voice X Subjects	1	0.2931	0.0494	.8245
Voice X Visuals	2	1.1170	0.1884	.8286
Visuals X Subjects	2	0.5289	0.0892	.9148
Voice X Visuals X Subjects	2	0.2417	0.0408	.9601

*Significant at or above the .05 level.

The testable hypothesis for the main effect of the Black voice versus the White voice is as follows:

> Null Hypothesis 1. There will be no difference between the mean score of subjects who receive a message from an information source with a distinguishable White voice and the mean score of subjects who receive a message from an information source with a distinguishable Black voice when "retention of message" is the dependent variable.
>
> Alternate Hypothesis 1. There will be a difference between the mean score of subjects who receive a message from an information source with a distinguishable White voice and the mean score of subjects who receive a message from an information source with a distinguishable Black voice when "retention of the message" is the dependent variable.

The analysis of covariance on the retention test produced a F-value of .3409 which was not significant at the .05 alpha level. Since no significant difference was found at the .05 alpha level, the null hypothesis is not rejected.

The testable hypothesis for the main effect of the White visuals versus the Black visuals versus the combination of Black and White visuals is as follows:

> Null Hypothesis 2. There will be no difference in the mean score of subjects who receive a message from an information source with visuals depicting all White people, the mean score of subjects who receive a message from an information source with visuals depicting all Black people, and the mean score of subjects who receive a message from an information source depicting a combination of both Black and White people when "retention of message" is the dependent variable.
>
> Alternate Hypothesis 2. There will be a difference in the mean score of subjects who receive a message from an information source with visuals depicting all White people, the mean score of subjects who receive a message from an information source with visuals depicting all Black people, and the mean score of subjects who receive a message from an information source depicting a combination of both Black and White people when "retention of message" is the dependent variable.

The analysis of covariance on the retention test produced an F-value of .9857 which was not significant at the .05 alpha level. Since no significant difference was found at the .05 alpha level, the null hypothesis is not rejected.

The testable hypothesis for the main effect of White subjects versus Black subjects is as follows:

> Null Hypothesis 3. There will be no difference between the mean score of the White subjects and the mean score of the Black subjects when "retention of message" is the dependent variable.
>
> Alternate Hypothesis 3. There will be a difference between the mean score of the White subjects and the mean score of the Black subjects when "retention of message" is the dependent variable.

The analysis of covariance on the retention test produced an F-value of 4.1213 which was significant beyond the .05 alpha level. The mean score for the White subjects was

13.58 while the mean score for the Black subjects was 11.93, indicating that the White subjects' retention test scores were higher. Since the range between these two scores was significant beyond the .05 alpha level, the null hypothesis is rejected and the alternate hypothesis is accepted.

The testable hypothesis for the two-way interaction effect between the race of the subjects and the distinguishable Black or the distinguishable White voice is as follows:

> Null Hypothesis 4. There will be no two-way interaction between the race of the subjects and an information source with a distinguishable White voice or an information source with a distinguishable Black voice as indicated by the mean scores of the subjects when "retention of message" is the dependent variable.

> Alternate Hypothesis 4. There will be a two-way interaction between the race of the subjects and an information source with a distinguishable White voice or an information source with a distinguishable Black voice as indicated by the mean scores of the subjects when "retention of message" is the dependent variable.

The analysis of covariance on the retention test produced an F-value of .0494 which was not significant at the .05 alpha level. Since no significant difference was found at the .05 alpha level, the null hypothesis is not rejected.

The testable hypothesis for the two-way interaction effect between the White visuals or the Black visuals or the combination of White and Black visuals and the distinguishable White or distinguishable Black voice is as follows:

> Null Hypothesis 5. There will be no two-way interaction between visuals depicting all White people, or visuals depicting all Black people, or visuals depicting a combination of White and Black people and a distinguishable White or Black voice as indicated by the mean scores of the subjects when "retention of message" is the dependent variable.

Alternate Hypothesis 5. There will be a two-way interaction between visuals depicting all White people, or visuals depicting all Black people, or visuals depicting a combination of White and Black people and a distinguishable White or Black voice as indicated by the mean scores of the subjects when "retention of message" is the dependent variable.

The analysis of covariance on the retention test produced an F-value of .1884 which was not significant at the .05 alpha level. Since no significant difference was found at the .05 alpha level, the null hypothesis is not rejected.

The testable hypothesis for the two-way interaction effect between the race of the subjects and the White visuals or the Black visuals or the combination of White and Black visuals is as follows:

Null Hypothesis 6. There will be no two-way interaction between the race of the subjects and an information source with visuals depicting all White people, or an information source with visuals depicting all Black people, or an information source with a combination of White and Black people as indicated by the mean scores of the subjects when "retention of message" is the dependent variable.

Alternate Hypothesis 6. There will be a two-way interaction between the race of the subjects and an information source with visuals depicting all White people, or an information source with visuals depicting all Black people, or an information source with a combination of White and Black people as indicated by the mean scores of the subjects when "retention of message" is the dependent variable.

The analysis of covariance on the retention test produced an F-value of .0892 which was not significant at the .05 alpha level. Since no significant difference was found at the .05 alpha level, the null hypothesis is not rejected.

The testable hypothesis for the three-way interaction effect for the race of the subjects and the White visuals or the Black visuals or the combination of White and Black visuals and the distinguishable White or distinguishable Black voice is as follows:

> Null Hypothesis 7. There will be no three-way interaction with the race of the subjects and an information source with a distinguishable White voice or a distinguishable Black voice and visuals depicting all White people, or visuals depicting all Black people, or visuals depicting a combination of both Black and White people as indicated by the mean scores of the subjects when "retention of message" is the dependent variable.

> Alternate Hypothesis 7. There will be a three-way interaction with the race of the subjects and an information source with a distinguishable White voice or a distinguishable Black voice and visuals depicting all White people, or visuals depicting all Black people, or visuals depicting a combination of both Black and White people as indicated by the mean scores of the subjects when "retention of message" is the dependent variable.

The analysis of covariance on the retention test produced an F-value of .0408 which was not significant at the .05 alpha level. Since no significant difference was found at the .05 alpha level, the null hypothesis is not rejected.

An analysis of the usefulness of the covariate on the four attitude scales resulted in an F-ratio of 2.199 (degrees of freedom 4 and 107) which was not significant at the $P = .6992$ level. A decision was made not to use the covariate in analyzing the data from the attitude scales since no association was found between the dependent and independent variables. A multivariate analysis of variance was then employed without the covariate. See Table 4.3

for a summary of the multivariate analysis of variance of scores from the attitude scales for the hypotheses.

TABLE 4.3--Multivariate Analysis of Variance of Scores from the Attitude Scales for the Seven Testable Hypotheses.

Source	d.f.	F-Value	Probability
Voice	4	0.3182	.8653
Visual	8	5.0394	.0001*
Race of Subjects	4	5.6943	.0004*
Voice X Subjects	4	1.2230	.3056
Voice X Visuals	8	0.9133	.5063
Visuals X Subjects	8	7.6939	.0001*
Voice X Visuals X Subjects	8	0.9418	.4830

*Significant at or above the .05 level.

The testable hypothesis for the main effect of the Black voice versus the White voice is as follows:

Null Hypothesis 1. There will be no difference between the mean score of subjects who receive a message from an information source with a distinguishable White voice and the mean score of subjects who receive a message from an information source with a distinguishable Black voice when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.

Alternate Hypothesis 1. There will be a difference between the mean score of subjects who receive a message from an information source with a distinguishable White voice and the mean score of subjects who receive a message from an information source with a distinguishable

Black voice when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.

The multivariate analysis of variance of means yielded an F-ratio of .3182 (degrees of freedom 4 and 105) which was not significant at the P = .8653 level. This indicated that there was no significant difference on any of the dependent variables being simultaneously analyzed. Since no significant difference was found at the .05 alpha level, the null hypothesis is not rejected.

The testable hypothesis for the main effect of the White visuals versus the Black visuals versus the combination of Black and White visuals is as follows:

Null Hypothesis 2. There will be no difference in the mean score of subjects who receive a message from an information source with visuals depicting all White people, the mean score of subjects who receive a message from an information source with visuals depicting all Black people, and the mean score of subjects who receive a message from an information source depicting a combination of both Black and White people when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.

Alternate Hypothesis 2. There will be a difference in the mean score of subjects who receive a message from an information source with visuals depicting all White people, the mean score of subjects who receive a message from an information source with visuals depicting all Black people, and the mean score of subjects who receive a message from an information source depicting a combination of both Black and White people when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.

The multivariate analysis of variance of means yielded an F-ratio of 5.04 (degrees of freedom 8 and 210) which was significant at the P = .0001 level. This indicated that there was a significant difference on at least one of the dependent variables being simultaneously analyzed. A univariate analysis was then performed on each of the dependent variables. A summary of the univariate analysis of measurement is reported in Table 4.4.

TABLE 4.4--Univariate Analysis of Scores from the Attitude Scales for White Visuals Versus Black Visuals Versus Combination of Black and White Visuals.

Variable	Between Mean Squared	F-Value	Probability
Trustworthiness	0.5083	0.2384	.7884
Expertness	14.1750	3.9878	.0214*
Concept Acceptability	3.3250	1.2124	.3016
Preference	86.3083	16.3360	.0001*
Degrees of freedom for hypothesis			2
Degrees of freedom for error			108

*Significant at or above the .05 level.

The univariate analysis of variance resulted in finding a significant difference in two of the dependent variables: "expertness" scale, and "preference" scale.

The subjects' scores on the "expertness" scale for information sources with visuals depicting all White people,

versus information sources with visuals depicting all Black people, versus information sources with visuals depicting a combination of Black people and White people produced an F-value of 3.98 which was significant beyond the .05 alpha level. The subjects' mean scores from the "expertness" scale (higher scores indicate greater degree of perceived "expertness") for the three visuals sets of the various information sources are reported in Table 4.5.

TABLE 4.5--Mean Scores from the "Expertness" and "Preference" Scales for the Main Effect of the Visuals.

Visual Sets	Expertness	Preference
White	27.87	25.12
Black	26.75	23.90
Combined	27.65	26.82

A post hoc comparison established that the significant difference was located in the range between the subjects' mean scores for information sources with White visuals and information sources with Black visuals. This range indicated that the subjects perceived the information sources that had visuals depicting White individuals as more "expert" than the information sources that had visuals depicting Black individuals. Since the range between these mean scores was significant beyond the .05 alpha level, the null hypothesis is rejected and the alternate hypothesis is accepted.

The subjects' scores on the "preference" scale for information sources with visuals depicting all White people, versus information sources with visuals depicting all Black people, versus information sources with visuals depicting a combination of Black people and White people produced an F-value of 16.32 which was significant beyond the .05 alpha level. The subjects' mean scores from the "preference" scale (higher scores indicate greater "preference") for the three visuals sets of the various information sources are reported in Table 4.5. A post hoc comparison established that the significant difference was located in the range between the subjects' mean scores for information sources with visuals depicting a combination of White and Black individuals and information sources with visuals depicting all Black individuals. Since the range between these mean scores was significant beyond the .05 alpha level, the null hypothesis is rejected and the alternate hypothesis is accepted.

The testable hypothesis for the main effect of White subjects versus Black subjects is as follows:

Null Hypothesis 3. There will be no difference between the mean score of the White subjects and the mean score of the Black subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.

Alternate Hypothesis 3. There will be a difference between the mean score of the White subjects and the mean score of the Black subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.

The multivariate analysis of variance of means yielded an F-ratio of 5.69 (degrees of freedom 4 and 105) which was significant at the P = .0004 level. This indicated that there was a significant difference on at least one of the dependent variables being simultaneously analyzed. A univariate analysis was then performed on each of the dependent variables. A summary of the univariate analysis of measurement is reported in Table 4.6.

TABLE 4.6--Univariate Analysis of Scores from the Attitude Scales for the Main Effect of White Students Versus Black Students.

Variable	Between Mean Squared	F-Value	Probability
Trustworthiness	0.0750	0.0352	.8516
Expertness	42.0083	11.8179	.0009*
Concept Acceptability	0.5333	0.1945	.6602
Preference	70.5333	13.3502	.0005*
Degrees of Freedom for hypothesis			1
Degrees of Freedom for error			108

*Significant at or above the .05 level.

The univariate analysis of variance resulted in finding a significant difference in two of the dependent variables: "expertness" scale, and "preference" scale.

The "expertness" scores for White subjects versus Black subjects produced an F-value of 11.82 which was significant beyond the .05 alpha level. The mean scores of the "expertness" scale (higher score indicated greater perceived "expertness") for White subjects versus Black subjects are reported in Table 4.7.

TABLE 4.7--Mean scores from the "Expertness" and "Preference" Scales for White Subjects versus Black Subjects.

Subject Level	Expertness	Preference
Black Subjects	26.83	26.05
White Subjects	26.01	24.51

The range between the two sets of subjects indicated that the Black subjects judged the various information sources higher on the "expertness" scale than did the White subjects. Since the range between these mean scores was significant beyond the .05 alpha level, the null hypothesis is rejected and the alternate hypothesis is accepted.

The "preference" scores for White subjects versus Black subjects produced an F-value of 13.35 which was significant beyond the .05 level. The mean scores of the "preference" scale (higher score indicate greater "preference") for the White subjects versus the Black subjects are reported in Table 4.7. The range between the two sets of subjects

indicated that Black subjects judged the various information sources higher on the "preference" scale than did the White subjects. Since the range between these mean scores was significant beyond the .05 alpha level, the null hypthesis is rejected and the alternate hypothesis is accepted.

The testable hypothesis for the two-way interaction effect between the race of the subjects and the distinguishable Black or the distinguishable White voice is as follows:

> Null Hypothesis 4. There will be no two-way interaction between the race of the subjects and an information source with a distinguishable White voice or an information source with a distinguishable Black voice as indicated by the mean scores of the subjects when the following scales are the dependent variables:
>
> 1. "trustworthiness" scale.
> 2. "expertness" scale.
> 3. "preference" scale.
> 4. "concept acceptability" scale.

> Alternate Hypothesis 4. There will be a two-way interaction between the race of the subjects and an information source with a distinguishable White voice or an information source with a distinguishable Black voice as indicated by the mean scores of the subjects when the following scales are the dependent variables:
>
> 1. "trustworthiness" scale.
> 2. "expertness" scale.
> 3. "preference" scale.
> 4. "concept acceptability" scale.

The multivariate analysis of variance of means yielded an F-ratio of 1.2230 (degrees of freedom 4 and 105) which was not significant at the P = .3056 level. This indicated that there was no significant difference on any of the dependent variables being simultaneously analyzed. Since no significant difference was found at the .05 alpha level, the null hypothesis is not rejected.

The testable hypothesis for the two-way interaction effect between the White visuals or the Black visuals or the combination of White and Black visuals and the distinguishable White or distinguishable Black voice is as follows:

Null Hypothesis 5. There will be no two-way interaction between visuals depicting all White people, or visuals depicting all Black people, or visuals depicting a combination of White and Black people and a distinguishable White or Black voice as indicated by the mean scores of the subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.

Alternate Hypothesis 5. There will be a two-way interaction between visuals depicting all White people, or visuals depicting all Black people, or visuals depicting a combination of White and Black people and a distinguishable White or Black voice as indicated by the mean scores of the subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.

The multivariate analysis of variance of means yielded an F-ratio of .9133 (degrees of freedom 8 and 210) which was not significant at the P = .5063 level. This indicated that there was no significant difference on any of the dependent variables being simultaneously analyzed. Since no significant difference was found at the .05 alpha level, the null hypothesis is not rejected.

The testable hypothesis for the two-way interaction effect between the race of the subjects and the White visuals or the Black visuals or the combination of White and Black visuals is as follows:

Null Hypothesis 6. There will be no two-way interaction between the race of the subjects and an information source with visuals depicting all White people, or an information source with visuals depicting all Black people, or an information source with a combination of White and Black people as indicated by the mean scores of the subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.

Alternate Hypothesis 6. There will be a two-way interaction between the race of the subjects and an information source with visuals depicting all White people, or an information source with visuals depicting all Black people, or an information source with a combination of White and Black people as indicated by the mean scores of the subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.

The multivariate analysis of variance of means yielded an F-ratio of 7.69 (degrees of freedom 8 and 210) which was significant at the P = .0001 level. This indicated that there was a significant difference on at least one of the dependent variables being simultaneously analyzed. A univariate analysis was then performed on each of the dependent variables. A summary of the univariate analysis of measurement is reported in Table 4.8.

The univariate analysis of variance resulted in finding a significant difference in two of the dependent variables: "expertness" scale, and "preference" scale.

TABLE 4.8--Univariate Analysis of Scores from the Attitude Scales for the Interaction Effect Between the Visuals and the Race of the Subjects.

Variable	Between Mean Squared	F-Value	Probability
Trustworthiness	1.4250	0.6683	.5148
Expertness	43.9583	12.3665	.0001*
Concept Acceptability	2.2583	0.8234	.4417
Preference	143.7583	27.2098	.0001*
Degrees of freedom for hypothesis			2
Degrees of freedom for error			108

*Significant at or above the .05 level.

The subjects scores on the "expertness" scale for the interaction effect between the three sets of visuals of the various information sources and the race of the subjects produced an F-value of 21.37 which was significant beyond the .05 alpha level. The subjects' mean scores on the "expertness" scale for the interaction effect between the three visual sets and the race of the subjects are reported in Table 4.9. A post hoc comparison established that the significant difference was located in the range between the White subjects' mean scores for information sources with either visuals depicting all White individuals or visuals depicting a combination of White and Black individuals and the information sources with visuals depicting all Black individuals. This indicated that the White subjects

TABLE 4.9--Mean Scores from the "Expertness" and "Preference" Scales for the Interaction Effect Between the Visuals and the Race of the Subjects.

Subject Level	Visual Level	Expertness	Preference
Black Subjects	Black Visuals	28.55	26.80
	White Visuals	27.80	24.40
	Mixed Visuals	27.70	26.95
White Subjects	Black Visuals	24.95	21.00
	White Visuals	27.95	25.85
	Mixed Visuals	27.6[illegible]	26.70

perceived sources with visuals depicting all White people or a combination of White and Black people as more "expert" than sources depicting alI Black people. Figure 2, on the following page, presents a graphic representation of the interaction effect of the three visual sets and the race of the subjects on the "expertness" scale. Since the range between the mean scores was significant beyond the .05 alpha level, the null hypothesis is rejected and the alternate hypothesis is accepted.

The subjects' scores on the "preference" scale for the interaction effects between the three sets of visuals of the various information sources and the race of the subjects produced an F-value of 27.21 which was significant beyond the .05 alpha level. The subjects' mean scores on the "preference" scale for the interaction effect between the

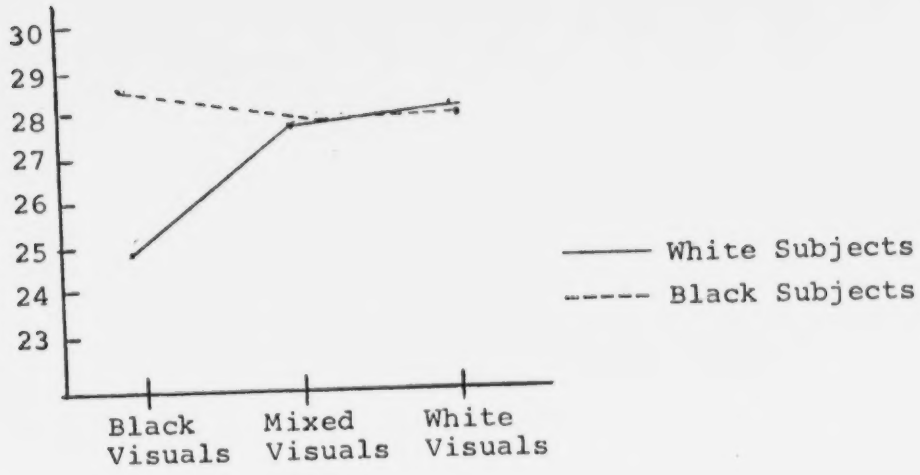

Figure 2. Interaction effect between the race of the subjects and the visual sets of the information sources on the "expertness" scale.

three visual sets and the race of the subjects are reported in Table 4.9. A post hoc comparison established that the significant difference was located in the range between the White subjects' mean scores for information sources with either White visuals or a combination of White and Black visuals and information sources with Black visuals. This indicated that the White subjects preferred information sources with visuals depicting all White people or a combination of White and Black people over information sources with visuals depicting all Black people. Figure 3, on the following page, presents a graphic representation of the interaction effect of the three visual sets and the race of the subjects on the "preference" scale. Since the range

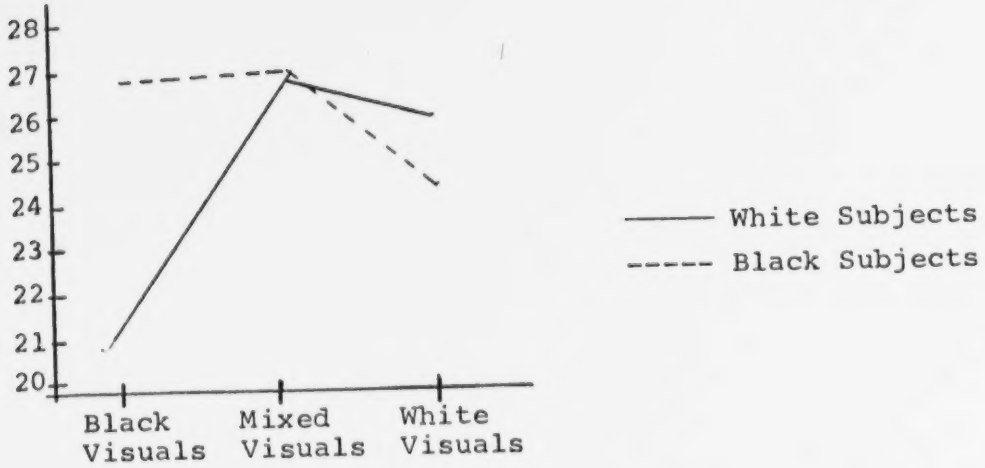

Figure 3. Interaction effect between the race of the subjects and the visual sets of the information sources on the "preference" scale.

between the mean scores was significant beyond the .05 alpha level, the null hypothesis is rejected and the alternate hypothesis is accepted.

The testable hypothesis for the three-way interaction effect for the race of the subjects and the White visuals or the Black visuals or the combination of White and Black visuals and the distinguishable White or distinguishable Black voice is as follows:

> Null Hypothesis 7. There will be no three-way interaction with the race of the subjects and an information source with a distinguishable White voice or a distinguishable Black voice and visuals depicting all White people, or visuals depicting all Black people, or visuals depicting a combination of both Black and White people as indicated by the mean scores of the subjects when the following scales are the dependent variables;
>
> 1. "trustworthiness" scale.
> 2. "expertness" scale.
> 3. "preference" scale.
> 4. "concept acceptability" scale.

Alternate Hypothesis 7. There will be a three-way interaction with the race of the subjects and an information source with a distinguishable White voice or a distinguishable Black voice and visuals depicting all White people, or visuals depicting all Black people, or visuals depicting a combination of both Black and White people as indicated by the mean scores of the subjects when the following scales are the dependent variables:

1. "trustworthiness" scale.
2. "expertness" scale.
3. "preference" scale.
4. "concept acceptability" scale.

The multivariate analysis of variance of means yielded an F-ratio of .9418 (degrees of freedom 8 and 210) which was not significant at the P = .4830 level. This indicated that there was no significant difference on any of the dependent variables being simultaneously analyzed. Since no significant difference was found at the .05 alpha level, the null hypothesis is not rejected.

An ethnic identification check sheet was given to the students at the end of the experiment. This instrument was used to validate that the subjects did perceive the race of the speakers correctly. Table 4.10 reports the check sheets data from the 120 experimental subjects.

Summary

Seven statistical hypotheses were generated for testing the main and interaction effects of the independent and dependent variables. An analysis of covariance was employed to determine the relationship between the independent variables and the retention test. A multivariate analysis of variance was used to determine the effect of the

TABLE 4.10--Number of Distinguishable and Indistinguishable Voice Sounds from 120 Experimental Subjects.

Voice	Total Number of Subjects	Distinguishable	Indistinguishable
White Voice/White Visuals	White 10	10	0
	Black 10	9	1
White Voice/Black Visuals	White 10	9	1
	Black 10	9	1
White Voice/Mixed Visuals	White 10	9	1
	Black 10	10	0
Black Voice/Black Visuals	White 10	10	0
	Black 10	10	0
Black Voice/White Visuals	White 10	10	0
	Black 10	8	2
Black Voice/Mixed Visuals	White 10	9	1
	Black 10	10	0
	120	113	7

independent variables with the attitude scales. The .05 level of confidence was used for determining significance. (See Appendix M for a summary of the results of the statistical analyses.) A discussion of the findings and their implications are found in Chapter V.

CHAPTER V

SUMMARY AND CONCLUSIONS

The purpose of this study was to investigate the influence that selected ethnic variables of an information source have on selected Black and White pupils. The research was focused on the effects of the auditory and visual channels of an information source on the students. The major concern of this study was to determine if White or Black students were influenced more by an information source with selected ethnic characteristics than by alternate sources with differing sets of selected ethnic characteristics. The voice of the narrator and the physical characteristics designating the race of individuals depicted in the visuals were the variables that were manipulated.

The generalizations drawn from the review of the literature indicated that ethnic reference group membership was employed by individuals to evaluate various information sources and their messages. This literature also established that in many situations a White audience tends to give less credibility to Black information sources than to White information sources. This research, however, does not include studies of the reactions of Blacks. The Black minority

element has received little investigation. While it was suggested by several writers that a Black individual might tend to be influenced more by a member of its own ethnic group, no studies were found which tested this proposition.

Several studies suggested that an audience formulates a level of perceived credibility for information sources from both visual and voice cues. These same studies indicated that an audience could determine the correct race of the information source by hearing just a short recorded passage of the speaker's voice. A higher rating of credibility was generally given to the voices distinguished as belonging to White individuals.

Another body of research suggested that both White and Black children have a preference for the White race. This preference for the White race was found in a wide range of situations. The situation with most implications for the present study was where both White and Black children tended to select visuals with White people over visuals with Black people. Some writers, however, have suggested that the Black children's preference for the White race is in the process of change.

Several studies suggested that children's responses to cognitive tasks were influenced by the race of the experimenter. These studies show that White children tend to respond better to White experimenters and Black children better to Black experimenters.

The present research was conducted with an experimental population from a racially mixed school consisting of one hundred eighty-six sixth grade students. The population consisted of a single public elementary school in a midwestern city of 200,000 people. Sixty White pupils and sixty Black pupils were randomly selected from the population and then randomly assigned to one of the six appropriate stimulus groups. Twelve cells for experimentation were created as a result of dividing the two races and assigning them to sections.

An instructional tape/slide presentation was the information source. The message dealt with the misuse of drugs. Two variables in the information source, the voice of the narrator and the race of the people depicted in the visuals, were manipulated for the experiment. The two voices were selected from voices previously determined to be distinguishable as either belonging to a Black or White individual. The race of the individuals depicted in the visuals was either Black or White. Five instruments were designed for this study. One was a retention test that had been pretested. The test data from thirty-four questions were submitted to an item analysis. Twenty questions for the experiment were then selected from the results of the item analysis. Three semantic differential scales were also designed. Bi-polar words were selected from previously validated research. These instruments measured the subjects' concepts

of "trustworthiness" and "expertness" of the information source, and the "concept acceptability" of the message. A fifth instrument was developed to measure the subjects' "preference" for the various information sources. This instrument was pre-tested at the same time as the retention test. Reliability of the instruments were determined by Hoyt's Estimate of Reliability Formula.

The experiment was conducted in three rooms that normally served as sixth grade classrooms. Three sixth grade teachers from the school served as proctors. After the presentation by the information source, four attitude instruments were administered, and then followed by a retention test. At the end of the experiment the students were given an instrument to check for validating the correct race of the narrator.

An analysis of covariance for the retention test and a multivariate analysis of variance for the attitude scales were used for testing the seven statistical hypotheses for the main effect or the interaction effect. All hypotheses were tested using the .05 level of confidence with the appropriate degrees of freedom.

Findings and Conclusions

Analysis of the data supports the following findings and conclusions:

Finding 1. No significant differences were found in the subjects' scores on the "retention test," "trustworthiness"

scale, "expertness" scale, "preference" scale, and "concept acceptability" scale when comparing the White voice and the Black voice of the various information sources.

Conclusion 1. Information sources with either a distinguishable White voice or a distinguishable Black voice have an equal amount of influence on students of the sixth grade.

Finding 2. In comparing the relative effectiveness of the three sets of visuals of the various information sources, no significant differences were found in the subjects' scores on the "trustworthiness" scale, "concept acceptability" scale, and "retention of the message" scale. Significant differences, however, were found on the "expertness" scale and the "preference" scale.

Conclusion 2. Students of the sixth grade level perceive information sources with visuals depicting all White people as having more "expertness" than sources with visuals depicting all Black individuals. The same students also have a "preference" for information sources with visuals depicting a combination of Black and White people over information sources depicting all Black people. (A close examination of the data indicates that these main effects are due to the interaction effect between the White subjects and the visuals of the information sources. The interaction effects are discussed in Finding number 6 and Conclusion number 6.)

Finding 3. Analysis of the data yielded no significant difference between the mean scores of the White subjects and the Black subjects on the "trustworthiness" scale, and "concept acceptability" scale. Significant differences were found, however, on the "expertness" scale, the "preference" scale and the "retention test." The Black subjects' composite mean score for all information sources was higher than the White subjects' composite score on the "expertness" scale and the "preference" scale. The White subjects' mean score on the "retention test" was higher than the Black subjects' mean score.

Conclusion 3. It was concluded from the data that Black subjects perceived all information sources as having more "expertness" than did the White subjects. The data also indicated that Black subjects gave a higher "preference" rating to all information sources than did the White subjects. It was also concluded that the White subjects scored higher on the retention test than did the Black subjects. The results from the "retention test" can perhaps be contributed to several irrelevant variables. These irrelevant variables are examined in the Discussion section of this chapter.

Finding 4. No significant differences were found in the subjects' scores on the "retention test," "trustworthiness" scale, "expertness" scale, "preference" scale, and "concept acceptability" scale for a two-way interaction effect

between the race of the subjects and the White or Black voices of the various information sources.

Conclusion 4. White students respond equally as well to information sources with a distinguishable Black voice as they do to information sources with a distinguishable White voice. Also, Black subjects respond equally as well to information sources with a distinguishable White voice as they do to information sources with a distinguishable Black voice. It is concluded that Black subjects and White subjects are not affected more positively by voices of their own race.

Finding 5. No significant differences were found in the subjects' scores on the "retention test," "trustworthiness" scale, "expertness" scale, "preference" scale, and "concept acceptability" scale for a two-way interaction effect between the three different sets of visuals and the Black or White voices of the various information sources.

Conclusion 5. The matching of a distinguishable White voice or a distinguishable Black voice with visuals depicting Black or White people does not have a significant affect on sixth grade students.

Finding 6. Analysis of the data yielded no significant difference in the subjects' scores for interaction between the race of the subjects and the three different sets of visuals of the various information sources on the "trustworthiness" scale, "concept acceptability" scale, and "retention

of message" scale. Significant differences were found, however, on the "expertness" scale and the "preference" scale.

Conclusion 6. White students of the sixth grade level perceive information sources with visuals depicting all White individuals, or a combination of White and Black individuals as having more "expertness" than information sources with visuals depicting all Black people. White students also have a preference for information sources with visuals depicting all White individuals, or a combination of White and Black individuals over sources depicting all Black individuals.

Finding 7. No significant differences were found in the subjects' scores on the "retention test," "trustworthiness" scale, "expertness" scale, "preference" scale, and "concept acceptability" scale for a three-way interaction among the Black or White voices, the three different sets of visuals of the information sources, and the race of the subjects.

Conclusion 7. It is concluded that any combination of distinguishable White or Black voices with visuals depicting White or Black people in an information source does not significantly differ in the effect on Black or White students.

Discussion of Results

The data analysis has indicated that the selected ethnic characteristics of the various information sources accounted for little difference in the amount of information retained by the subjects. The only significant finding from the "retention test" was that White subjects obtained a higher score than Black subjects. There are several irrelevant variables that could have produced this result. The environment of the school is one variable that may have contributed to this finding. Only two of the six sixth grade teachers were Black. The school's entire teaching staff had a very low proportion of Black teachers compared with its 62% Black pupil and 38% White pupil enrollment. Also, both the principal and assistant principal were White. The Black pupils' desire to achieve was perhaps negatively affected by the low percentage of Blacks on the professional staff.

A second irrelevant variable that could have caused the results on the "retention test" was the number of students that had been directly or indirectly involved with drugs. A negative attitude toward drug prevention could have caused the pupils to be less attentive to the message from the information source. The subjects that were less attentive to the message would of course be expected to score lower on the "retention test."

A third reason for the lower score on the "retention test" by the Black subjects could perhaps be contributed to

the short duration of the presentation. The Black subjects have been so accustomed to materials which depict only White people that they often pay little attention to them. In the experiment, the Black student may have automatically "tuned out" not realizing that some of the materials were designed to depict Black people. Research with materials of the type used in the present study should be conducted over a longer period of time. The Black pupils would probably improve the "retention test" scores during the time period.

The limited data of this study tend to suggest that Black subjects retain information equally as well from an information source with one set of ethnic characteristics as from information sources with differing ethnic characteristics. The same general statement can be made about the White subjects. These results do not support the contention that more information will be retained by a person who is exposed to an information source of similar ethnic background.

The data from the "trustworthiness" and "expertness" scales do reveal some interesting results. The analysis indicated that there was no difference on the "trustworthiness" scale for any of the seven hypotheses. However, significant differences were found for hypotheses numbers 2, 3, and 6. This tends to suggest that information sources may be perceived as "trustworthy" but, at the same time, be perceived

as having a low degree of "expertness." This finding supports those individuals who suggest credibility as a multidimensional concept rather than a unidimensional concept.

Hypotheses numbers 1, 4, 5, and 7 which examined the Black voice and the White voice all produced no significant difference. One reason for these results can perhaps be attributed to the voice selection procedure. This was a result that perhaps could be expected since the voices were judged to be similar in quality. It should be pointed out, however, that the subjects did correctly perceive the difference in the White and Black voices. From this data it could be suggested that a Black voice and a White voice of compatible quality will not differ in influence upon White or Black subjects of the sixth grade level.

The data from the three differing sets of visuals produced some interesting results. The White subjects tended to rate the information sources with visuals depicting all Black individuals much lower than the sources with visuals depicting all White individuals, or a combination of White and Black people. It is interesting to note that the sources with visuals depicting a combination of people were not significantly different from sources with all White visuals. This seems to indicate that the White subjects were able to accept visuals depicting Black and White individuals in an integrated situation; but that they could not accept visuals depicting only Black individuals.

The Black subjects' tendency was to rate each of the information sources about the same. These results indicated that the Black subjects were equally influenced by each of the information sources. In view of past research the above results seems to represent some new implications. Data from the present study shows that the Black subjects rated information sources with Black characteristics about the same as information sources with White characteristics. These results seem to support those individuals who suggest that the Black individual is developing a greater amount of pride in his own race. Considering past research, these results would probably not have been found a few years ago.

The visual channel of the information source in this study elicited more of a reaction from the subjects on the "expertness" and "preference" scales than did the audio channel. Even though the subjects did identify the correct race of the narrator, they reacted more negatively to the visuals depicting all Black people than to a distinguishable Black voice.

Implications for Education

Several implications from the data generated by this investigation seem to be worthy of consideration.

1. It appears from these data that commercial companies could incorporate identifiable Black voices into instructional materials for students of the sixth grade level.

2. Commercial companies should strongly consider the design of instructional material with visuals depicting a combination of Black and White people. Students of the sixth grade level, both Black and White seem to have a favorable response to this type of material.

3. Teachers and administrators of schools should use more materials which depict a combination of White and Black people. Materials with a combination of White and Black people should be used in all types of schools. These materials would probably help to promote healthier relations between our racial groups.

4. Instructional designers should observe these data but should also look beyond for other alternatives. The instructional designer should closely examine the cultural background of the Black individual to make sure that the Black have been depicted appropriately.

Implications for Further Research

The following research suggestions are based on the findings of this study and the experiences and insights gained during the course of study.

1. It is suggested that this study be replicated using a larger experimental population. This study was restricted to a small sample which provided only 10 subjects per treatment cell. The increased size of the sample would increase the statistical accuracy of group measurements.

2. Replication of this study should be conducted with different populations. The subjects in this investigation were all sixth grade students from a racially integrated school. Interesting comparisons could be made with separate samples taken from an all White school and an all Black school. Also, samples from other ethnic groups should be studied.

3. This study used drug abuse as the topic to be communicated by the information source. A wide range of topics should be studied to determine what influence ethnic characteristics would have upon the receivers. There is a strong possibility that differences would exist in racially-bound topics.

4. It could also be advantageous to examine existing racial biases of subjects in a replication of this study. Comparisons of existing racial biases of the subjects should be incorporated in the original design for examination.

5. This study used a tape/slide presentation as the information source. Similar research should be conducted to study the effects of the audio and visual channels of other information sources.

6. This study should be replicated using a variation in the dialect of the script including a variation in the syntactical structure of sentences.

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APPENDICES

APPENDIX A

POST-TEST SCRIPT

A TAPESTRY OF DREAMS

I have met people from many lands who became American citizens. As I learned to know them, I realized that the notion of a "melting pot" was an inaccurate figure of speech to use for our country. We are not a mass of people boiled down to the lowest common denominator. Our unique strength lies in our diversities. We are like a tapestry, made up of many threads, some sturdy, some gay, some long, some short, all woven into one fabric by our shared dream of freedom.

APPENDIX B

VOICE DISTINGUISHABILITY RATING SCALE

Check the appropriate number which, in your opinion, best describes the voice sound of each speaker.

Speaker--Number 1

_____1 Sounds clearly distinguishable as a Black speaker

_____2 Sounds like a Black speaker

_____3 Sounds indistinguishable

_____4 Sounds like a White speaker

_____5 Sounds clearly distinguishable as a White speaker

Speaker--Number 2

_____1 Sounds clearly distinguishable as a Black speaker

_____2 Sounds like a Black speaker

_____3 Sounds indistinguishable

_____4 Sounds like a White speaker

_____5 Sounds clearly distinguishable as a White speaker

Speaker--Number 3

_____1 Sounds clearly distinguishable as a Black speaker

_____2 Sounds like a Black speaker

_____3 Sounds indistinguishable

_____4 Sounds like a White speaker

_____5 Sounds clearly distinguishable as a White speaker

Speaker--Number 4

_____1 Sounds clearly distinguishable as a Black speaker

_____2 Sounds like a Black speaker

_____3 Sounds indistinguishable

_____4 Sounds like a White speaker

_____5 Sounds clearly distinguishable as a White speaker

Speaker--Number 5

_____1 Sounds clearly distinguishable as a Black speaker

_____2 Sounds like a Black speaker

_____3 Sounds indistinguishable

_____4 Sounds like a White speaker

_____5 Sounds clearly distinguishable as a White speaker

Speaker--Number 6

_____1 Sounds clearly distinguishable as a Black speaker

_____2 Sounds like a Black speaker

_____3 Sounds indistinguishable

_____4 Sounds like a White speaker

_____5 Sounds clearly distinguishable as a White speaker

Speaker--Number 7

_____1 Sounds clearly distinguishable as a Black speaker

_____2 Sounds like a Black speaker

_____3 Sounds indistinguishable

_____4 Sounds like a White speaker

_____5 Sounds clearly distinguishable as a White speaker

Speaker--Number 8

_____1 Sounds clearly distinguishable as a Black speaker

_____2 Sounds like a Black speaker

_____3 Sounds indistinguishable

_____4 Sounds like a White speaker

_____5 Sounds clearly distinguishable as a White speaker

APPENDIX C

VOICE QUALITY RATING SCALE

Circle the numbers that most appropriately represents your perception of each of the voices that you will hear.

Voice--Number 1

1 2 3 4 5 Sense of Communication
1 2 3 4 5 Pleasantness of Pitch
1 2 3 4 5 Pronunciation
1 2 3 4 5 Voice Variation
1 2 3 4 5 Speaking Rate
1 2 3 4 5 General Effectiveness

Voice--Number 2

1 2 3 4 5 Sense of Communication
1 2 3 4 5 Pleasantness of Pitch
1 2 3 4 5 Pronunciation
1 2 3 4 5 Voice Variation
1 2 3 4 5 Speaking Rate
1 2 3 4 5 General Effectiveness

Voice--Number 3

1 2 3 4 5 Sense of Communication
1 2 3 4 5 Pleasantness of Pitch
1 2 3 4 5 Pronunciation
1 2 3 4 5 Voice Variation
1 2 3 4 5 Speaking Rate
1 2 3 4 5 General Effectiveness

Voice--Number 4

1 2 3 4 5 Sense of Communication
1 2 3 4 5 Pleasantness of Pitch
1 2 3 4 5 Pronunciation
1 2 3 4 5 Voice Variation
1 2 3 4 5 Speaking Rate
1 2 3 4 5 General Effectiveness

Voice--Number 5

1 2 3 4 5 Sense of Communication
1 2 3 4 5 Pleasantness of Pitch
1 2 3 4 5 Pronunciation
1 2 3 4 5 Voice Variation
1 2 3 4 5 Speaking Rate
1 2 3 4 5 General Effectiveness

Voice--Number 6

1 2 3 4 5 Sense of Communication
1 2 3 4 5 Pleasantness of Pitch
1 2 3 4 5 Pronunciation
1 2 3 4 5 Voice Variation
1 2 3 4 5 Speaking Rate
1 2 3 4 5 General Effectiveness

Voice--Number 7

1 2 3 4 5 Sense of Communication
1 2 3 4 5 Pleasantness of Pitch
1 2 3 4 5 Pronunciation
1 2 3 4 5 Voice Variation
1 2 3 4 5 Speaking Rate
1 2 3 4 5 General Effectiveness

Voice--Number 8

1 2 3 4 5 Sense of Communication
1 2 3 4 5 Pleasantness of Pitch
1 2 3 4 5 Pronunciation
1 2 3 4 5 Voice Variation
1 2 3 4 5 Speaking Rate
1 2 3 4 5 General Effectiveness

APPENDIX D

STIMULUS MATERIAL SCRIPT

Drug Misuse and Your Health

Slide Number	Narration
1	Title--music.
2	Drug misuse is a major problem in our society. the lonely, meaningless existence of the drug abuser has become a way of life for thousands of Americans--many of whom are under 21 years of age.
3	The problem affects the people of every community, every profession, every race, every religion--and the rich as well as the poor.
4	What are drugs? How are they used?
5	Drugs are substances developed for use in the diagnosis, prevention, treatment, or relief of disease in man or other animals. Some drugs kill disease--producing organisms, while others supply certain materials needed by the body for its proper functioning. Many relieve the distressing symptoms of diseases, thus permitting the patient to feel more comfortable.
6	During recent years, amazing progress has been made in the improvement of man's health. This progress is largely due to modern drugs--powerful friends which deserve your study, understanding, and--most important--wise use.
7	The first drugs were discovered quite by accident when primitive man found that some of the plants which grew around him seemed to have a mysterious ability to relieve pain, heal wounds, and even cure certain diseases.
8	Since that time, man has found that many plants provide valuable drugs. He has learned to obtain other important drugs from animals; still other, from minerals. However, most modern drugs are the results of chemical processes developed in the laboratories of the pharmaceutical industry.
9	The list of available drugs seems endless. Drugs can be purchased in the form of capsules, tablets, ointments, syrups, creams, and so on. Some of these drugs may be purchased "over the counter," that is, they may be obtained without a prescription. In such cases, it is the purchaser's responsibility to use the

drug correctly--to follow the directions exactly and to be aware of warning statements and possible side effects.

Other drugs may be legally obtained only with a doctor's prescription. In these instances the federal government believes the drug can be used safely and effectively only under a doctor's supervision.

When a person obtains and uses prescription drugs illegally, without a prescription written specifically for him, he risks his health and perhaps even his life. Furthermore, he is breaking laws designed to protect him.

When drugs are carefully used for their intended purposes, they can be very beneficial. But when misused, any drug can be dangerous.

Most of us have taken aspirin, for example, and do not look upon it as a dangerous drug. In fact, Americans consume over 30 tons of aspirin daily.

Yet, in spite of its relative safety, when misused, even aspirin is capable of causing deaths--about 100 each year...mostly among children.

Many drug misuse problems involve certain classes of drugs which can cause drug dependence, that is, habituation or addiction.

In habituation, the user develops an emotional, or psychological--but not an actual physical--need for the drug. If deprived of the drug, he may become depressed, frustrated, nervous, or even panicky, but he does not suffer from a true, physical sickness.

In addiction, however, the user of a drug has become both psychologically and physically dependent upon it--his body needs the drug and develops a tolerance for it. This means he must have it in constantly increasing amounts.

Because of his physical dependence, when the addict is deprived of the drug, he suffers withdrawal sickness-a frightening combination of fever; vomiting; severe cramps; dirrhea; and violent, painful muscle twitching.

The horror of experiencing withdrawal symptoms often leads addicts to obtain drugs by any means possible. The addict's interest in life narrows to only one concern: Where can he get another dose of the drug?

20 Crime and violence frequently results from the addict's need for money to purchase drugs. The cost of maintaining his addiction may run as high as $75 daily.

21 In New York City, for example, all the addicts combined are said to require between $200,000 and $700,000 every day to obtain their drugs. The burglary, prostitution, shoplifting, and other illegal activities which provide their money represent 50 per cent of that city's crime.

22 When they become addicted or habituated to drugs, people who normally would be law-abiding citizens under any other circumstances must rely upon criminals to obtain drugs or the money to purchase them.

23 In his desperation to obtain drugs, the otherwise trustworthy person will lie and cheat. Honesty is no longer important. The feelings of those who were once close to him no longer matter. His personal cleanliness may be of little concern. His character and person may deteriorate until his whole life is controlled by his dependence upon drugs. He becomes enslaved in the meaningless existence of drug dependence.

24 Because of the seriousness of the problems created by drug abuse, there are some general facts that should be known about the major classes of drugs that are often misused: the sedatives, the narcotics, the stimulants, the halluciogens.

25 Sedatives depress the central nervous system. One group of sedatives, the barbiturates, are derivatives of barbituric acid and frequently are called "sleeping pills" or "goof balls."

26 Barbiturates are safe and effective when used under a doctor's supervision, but when used carelessly they may be addicitive. Furthermore an overdose may depress the brain's respiratory control center to such an extent that breathing ceases. Overdoses are not uncommon, because an addict under the influence of barbiturates may be confused, have a diminished sense of time, and be incapable of logical thought.

27 One major group of narcotics consists of the opiates, such as opium, morphine, heroin, and codeine. Most opiates are valuable when used judiciously under a doctor's supervision.

28 The primary medicinal use of opiates is to relieve pain. They depress the central nervous system. Thereby they calm the patient and induce sleep. They also produce euphoria, an exaggerated feeling of happiness and well being. It should be known, however, that the opiates are addictive. They may cause physical and emotional dependence, create a tolerance, and cause severe withdrawal symptoms when they are withheld.

29 Heroin is illegal in the United States under any circumstances. It cannot be manufactured, imported, or prescribed because of its tremendous addictive potential. The other opiates are legally available only upon prescription by a licensed physician, and no one should ever attempt to obtain them illegally.

30 The typical addict usually prefers intravenous injections of heroin, morphine, or whatever drug to which he is addicted. In this form, the drug's effects occur most rapidly and are most pronounced. After injection of a narcotic, the addict feels a tingling sensation, then a feeling of happiness.

31 After experiencing the early sensations of the injection, the addict drifts into periods of sleep and daydreams.

32 In a few hours, the effects of the drug begin to wear off, and the addict becomes anxious for another injection, or "fix" as it is often called by addicts.

33 The stimulants, such as the amphetamines, also can be useful medical tools when prescribed for specific purposes by a licensed physician. They, too, work directly on the central nervous system, but unlike the depressants, their primary action is to stimulate rather than to relax. They are commonly known as "pep pills" or "bennies."

34 Unfortunately, stimulants are often obtained illegally, that is without a prescription, and commonly are misused. Persons such as students, truck drivers, and house wives often take them to hide fatigue. The abusers usually do not realize that an overdosage of these agents may cause a loss of judgment; lead the user to try impossible, dangerous acts; and even, in some instances, contribute to criminal behavior.

35 After misuse of stimulants, a person may "black out," or experience serious mental disturbances. While these drugs are not physically addicitive, the user may become emotionally dependent on stimulants and develop a tolerance for them.

36 Recently another class of drugs--the hallucinogens--has become a subject of great concern. The effects of these drugs are unpredictable. Small doses in some individuals have led to suicide or permanent mental derangement and insanity. Many of these drugs may be obtained from plants; other have been developed in experimental reserach centers. But all have the property of causing delusions or hallucinations--visions which may be pleasant or terrifying.

37 The physiological effects of the hallucinogens are not yet fully understood. It is know, however, that they produce chemical effects upon the brain. The drugs are being studied for their possible applications in medicine. Some medical researchers believe that certain hallucinogens may be helpful in the study of mental diseases. The hallucinogens are considered experimental and potentially hazardous.

38 Marijuana, although grouped with the narcotics for legal purposes, more closely resembles the hallucinogens in its effects on the body. When a person smokes a marijuana cigarette, called a "reefer," he experiences a sensation which has been compared to intoxication; he becomes less inhibited and his senses are often exaggerated. One of the greatest dangers for marijuana users is that they soon may want a bigger "kick" and turn to heroin or other drugs.

39 Another dangerous activity that has been reported recently is the swallowing or sniffing of certain chemical agents which cause con-

fusion, drowsiness, slurred speech, dizziness, unconsciousness, and often hallucinations. These agents are poisonous and may cause damage to important organs of the body, such as the Kidneys, liver, brain, and bone marrow.

40 Many of these toxic chemicals are contained in paint thinner, model airplane glue, gasoline, lighter fluid, and cleaning fluid.

41 In spite of the obvious health hazards of drug misuse, the strict drug laws, the emotional problems of habituation, and the physical dangers of addiction, the number of drug abusers continues to increase. Why? Who are these people? What makes them begin to misuse drugs?

42 There are no clear-cut answers to these questions. Usually there are many factors involved. Many drug abusers begin using drugs because some of their friends do, and they want to feel more a part of the group.

43 Some young people take drugs to be different or daring--not realizing how often experimentation leads to drug dependence. They foolishly believe that somehow they are not like the other people; they will be able to stop--to "kick" the habit whenever they choose.

44 Others take drugs to escape reality. Unable to cope with the problems of life, they use drugs as a crutch until, unwittingly, they create a problem much greater than the one they originally faced.

45 Research in drug dependence is being conducted by experts in many disciplines, such as medicine, biochemistry, pharmacology, psychology, sociology, and law.

46 Under adequate medical supervision, the addict may be cured of his physical dependence upon drugs; however, the majority of former addicts relapse after treatment. They return to addiction because curing a psychological dependence upon drugs often requires lengthy psychiatric treatment, treatment aimed at rehabilitating the patient to face the realities of life without dependence on drugs.

47 The United States Public Health Service has conducted medical research in the problem of drug dependence, including the treatment of it. The Public Health Service maintains hospitals especially staffed and equipped to treat and rehabilitate drug addicts.

48 Federal, state, and local governments realize the seriousness of drug misuse and have enacted laws to help control it.

49 Illegal possession of narcotics is punishable by imprisonment of from 2 to 10 years, for a first offense. For subsequent criminal offenses with narcotics, prison sentences range from 10 to 40 years. The penalty for illegally selling narcotics is from 20 to 40 years in prison.

50 What can young people do about the problem? First, resist persuasion to experiment with drugs in any form.

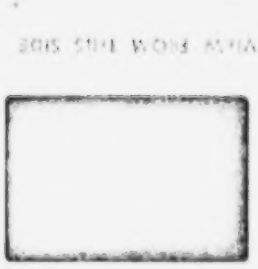
51 Refuse to take "pep pills," tranquilizers, or other drugs for the thrill of it. Never become a steady user of a drug unless your physician advises. Never take drugs prescribed for someone else--and don't let anyone else use your prescription drugs. Never buy drugs from unauthorized persons.

52 Store all drugs out of reach of small children. Destroy leftover prescription drugs and unidentified drugs. Be aware of your protection through laws and report any violations of these laws.

53 Although many basic facts have been presented in this filmstrip, you should obtain and study additional authoritative information about drugs. Then make it your responsibility to help others understand how foolish and dangerous it is to misuse drugs in any way. Though you may never become involved personally in drug abuse, the problem should concern you as citizens.

APPENDIX E

SELECTED SLIDES FROM THE PRESENTATION



APPENDIX F

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APPENDIX F

PILOT STUDY RETENTION TEST

A=difficulty index
B=discrimination index
C=percentage of stimulus group answering correctly
D=percentage of non-stimulus group answering correctly

A	B	C	D	
12	7	88	60	1. Drug misuse is one of the major problems in our society. Many of the people in America who misue drugs are: A. under the age of 21. B. 21-30 years old. C. 31-40 years old. D. 41 and above.
15	19	85	68	2. The drug abuse problem affects: A. only people who are poor. B. only people who are rich. C. people of all kinds. D. just misguided teenagers.
20	20	80	16	3. The first drugs were discovered: A. by the Japanese at the turn of the century. B. quite by accident by primitive man. C. by modern day doctors. D. just misguided teenagers.
52	31	48	24	4. "Over the counter," drugs are those that: A. are illegal. B. must be obtained with a prescription. C. may be obtained by almost anyone without a prescription. D. are used in treating house pets.
25	10	75	40	5. When a person obtains and uses prescription drugs, without a prescription written specifically for him: A. he is doing what the law wants him to do. B. he will suffer no harm to his body. C. both of the above. D. he is breaking laws designed to protect him.
35	32	65	16	6. Most of us have taken aspirin, and do not look upon it as a dangerous drug. In fact, Americans consume: A. over 30 tons of aspirin daily. B. about 1000bottles of aspirin daily. C. over 300,000 tons of aspirin daily D. an average of 2 aspirins for each person each day of the year.

38 38 62 20 7. The tape/slide presentation that was just presented to you discusses:

A. the misuse of narcotics only.
B. the misuse of alcohol and drugs.
C. the misuse of "over the counter" drugs.
D. the misuse of a wide range of drugs.

35 32 65 20 8. The title of the tape/slide presentation was:

A. Drug Misuse and Your Health.
B. Effects of Alcohol and Drugs on Your Health.
C. Narcotics: Friend or Foe.
D. Drugs that are Harmful to your Health.

40 37 60 28 9. Most drugs that are used for medical purposes:

A. are obtained from plants.
B. are obtained from the skin tissue of animals.
C. are the results of chemical processes developed in laboratories.
D. are obtained from the European countries.

28 25 72 40 10. When misused, even aspirin is capable of causing death. In fact over 100 deaths each year:

A. occur among hospitalized patients who have migraine headaches.
B. occur mostly among children who accidently take an overdose.
C. occur among people who are depressed.
D. occur from the taking of illegal aspirin.

68 37 32 24 11. An habitual drug user develops:

A. a physical need for the drug.
B. an emotional or psychological need for the drug.
C. both of the above.
D. no dependence for the drug.

42 56 58 24 12. A drug addict has become:

A. psychologically but not physically dependent upon a drug.
B. physically dependent but not psychologically upon a drug.
C. both psychologically and physically dependent upon a drug.
D. none of the above.

4q 30 58 30 13. Crime and violence frequently results from the addict's need for money to purchase drugs. It was indicated that the addict may spend as much as:

A. $1,000 daily on drugs.
B. $700 daily on drugs.
C. $75 daily on drugs.
D. $7.50 daily on drugs.

25 62 30 14. The presentation indicated that in New York City, burglary, shoplifting, and other illegal activities provide money for drug users represents:

A. 90% of that city's crime.
B. 75% of that city's crime.
C. 50% of that city's crime.
D. About 10% of that city's crime.

20 65 50 15. In his desperation to obtain drugs the:

A. addict no longer considers honesty to be important.
B. the addict if honest will remain honest.
C. addict's honesty will depend on the background of the individual.
D. addict will commit himself to the hospital.

30 64 32 16. There are four major classes of drugs: the sedatives, the narcotics, the stimulants, and the hallucinogens. Of these four groups of drugs:

A. sedatives are misused more than any other type.
B. all can be seriously misused.
C. stimulants are never misused.
D. only narcotics are misused.

44 65 24 17. One group of sedatives called the barbiturates:

A. are found in the form of pep pills.
B. stimulate the central nervous system.
C. tend to have little affect on the user.
D. depresses the brains respiratory system to such an extent that breathing may cease.

35 60 00 18. One major group of narcotics consists of the opiates such as opium, morphine, heroin, and codeine. The primary medical use of opiates is to:

A. cure cancer patients.
B. relieve pain of patients.
C. to bring down a fever of a patient.
D. acts as anesthesia during an operation.

10 72 36 19. In the United States heroin:

A. is manufactured for medical use only.
B. is sold only with a prescription.
C. is illegal under any circumstance and may not be used for any purpose.
D. is used only with patients in the hospital.

17 48 24 20. The term "fix" is used to refer to:

A. an over use of aspirin.
B. the feelings a person experiences from using an overdose of drugs.
C. an injection of a narcotic.
D. a long night's sleep.

32 12 68 24 21. The stimulants, such as the amphetamines are commonly known as:

A. "pep pills" or "bennines."
B. sleeping pills.
C. "knockout drops."
D. narcotics.

35 13 65 36 22. Stimulants when taken for a long period of time can:

A. cause the user to become happy and satisfied.
B. cause emotional dependence on the drug and may also cause the person to "black out."
C. produce hallucinations.
D. all the above.

37 29 63 16 23. Another class of drugs called the halluncinogens:

A. have no mental effect.
B. cause predictable actions for all users.
C. may cause either pleasant or terrifying visions.
D. have no physical effect.

65 25 35 20 24. The class of drugs called hallucigens can be considered:

A. safe for the adult user.
B. experimental and potenially hazardous for all.
C. safe for all under a doctor's care.
D. a cure for most serious disease.

67 25 33 24 25. Marijuana, although grouped with the narcotics for legal purposes, more closely resembles:

A. the stimulants in its effects on the body.
B. the sedatives in its effects on the body.
C. an over dose of aspirin in its effects.
D. the hallucinogens in its effects on the body.

20 62 80 50 26. One of the greatest dangers for marijuana user is:

A. they soon may want a bigger "kick" and as a result turn to heroin or other drugs.
B. death often occurs when an overdose has been taken.
C. they experience hallucantions.
D. in its original form it may explode and cause permanent damage.

22 31 78 24 27. Another dangerous activity that has been reported recently is the swallowing or sniffing of certain chemicals. Many of these toxic chemicals are contained in:

A. hair sprays and hair dyes.
B. oven cleaners and other types of cleaners.
C. paint thinners and lighter fluid.
D. poppy plants.

50 19 50 24 28. The number of drug abusers continues to increase. The reason for this increase is due to:

A. there being no laws concerning drug abuse at the present time.
B. the legalization of marijuana.
C. more pushers selling the drugs.
D. there are no clear-cut answers to these questions.

67 13 33 20 29. Under adequate medical supervision, the addict may be cured of his physical dependence upon drugs; however:

A. the addict often returns to addiction.
B. the treatment is too expensive for most people.
C. the addict is never curred of his dependence.
D. the addict must return to the hospital for treatment.

50 38 50 16 30. Federal, state and local governments realize the seriousness of drug misuse:

A. but have been able to do nothing to control it.
B. and are trying to start control of its misuse.
C. and have enacted laws to help control it.
D. but considers it control should be up to each person.

42 36 58 20 31. Research in drug prevention and drug cure is being conducted by:

A. doctors throughout the world.
B. scientist with a chemistry background.
C. experts in many areas such as medicine, sociology and law.
D. the police departments.

40 50 60 16 32. According to the presentation the penalty for illegally selling narcotics is:

A. from 2 to 10 years in prison.
B. life in prison.
C. 20 to 40 years in prison.
D. a $1,000 fine for the first offense.

20 50 80 64 33. The problem of drug abuse can be helped if young people:

A. try never to talk about the problem to their friends.
B. try to make a citizen arrest of people misusing drugs.
C. never watch television programs on drugs.
D. never experiment with drugs in any form.

13 37 87 60 34. According to the tape slide presentation many drug abusers begin using drugs because:

A. they are depressed and want to feel good.
B. someone has given them "free drugs to try as an experiment."
C. some of their friends do, and they want to be part of the group.

APPENDIX G

EXPERIMENTAL RETENTION TEST

STRUCTIONS: Read each question and make your selection based on the information in the presentation. Circle the answer that ou feel is most correct.

. The drug abuse problem affects:
A. only people who are poor.
B. only people who are rich.
C. people of all kinds.

. The first drugs were discovered:
A. by the Japanese at the turn of the century.
B. quite by accident by primitive man.
C. by modern day doctors.
D. by a group of scientist$.

. "over the counter," drugs are those that:
A. are illegal.
B. must be obtained with a prescription.
C. may be obtained by almost anyone without a prescription.
D. people use in treating house pets.

. When a person obtains and uses prescription drugs, without a prescription written specifically for him:
A. he is doing what the law wants him to do.
B. he will suffer no harm to his body.
C. both of the above.
D. he is breaking laws designed to protect him.

. Most of us have taken aspirin, and do not look upon it as a dangerous drug. In fact, Americans consume:
A. over 30 tons of aspirin daily.
B. about 1,000 bottles of aspirin daily.
C. over 300,000 tons of aspirin daily.
D. an average of 2 aspirins for each person each day.

. Most drugs that are used for medical purposes:
A. are obtained from plants.
B. are obtained from the skin tissue of animals.
C. are results of chemical processes developed in laboratories.
D. are obtained from the European countries.

. When misused, even aspirin is capable of causing death. In fact over 100 deaths each year:
A. occur among hospitalized patients who have migraine headaches.
B. occur mostly among children who accidently take an overdose.
C. occur among people who feel depressed.
D. occur from the taking of illegal obtained aspirin.

1. A drug addict has become:
   A. psychologically but not physically dependent upon a drug.
   B. physically dependent but not psychologically upon a drug.
   C. both psychologically and physically dependent upon a drug.
   D. none of the above.

2. The presentation indicated that in New York City, burglary, shoplifting, and other illegal activities that provide money for drug users represents:
   A. 90% of that city's crime.
   B. 75% of that city's crime.
   C. 50% of that city's crime.
   D. 10% of that city's crime.

3. There are four major classes of drugs: the sedatives, the narcotics, the stimulants, and the hallucinogens. Of these four groups of drugs:
   A. sedatives are misused more than any other type.
   B. all may be seriously misused.
   C. stimulants are never misused.
   D. only narcotics are misused.

4. One group of sedatives called the barbiturates:
   A. are found in the form of pep pills.
   B. are used to stimulate the central nervous system.
   C. tend to have little affect on the user.
   D. depresses the brains respiratory system to such an extent that breathing may cease.

5. One major group of narcotics consists of the opiates, such as opium, morphine, heroin, and codeine. The primary medical use of opiates is to:
   A. cure cancer patients.
   B. relieve pain of patients.
   C. to bring down a fever of a patient.
   D. acts as an anesthesia during an operation.

6. In the United States heroin:
   A. is manufactured for medical use only.
   B. is sold only with a perscription.
   C. is illegal under any circumstance and may not be used for any purpose.
   D. is used only with patients in the hospital.

7. The term "fix" is used to refer to:
   A. an over use of aspirin.
   B. the feelings a person experiences from using an overdose of drugs.
   C. a long night's sleep.
   D. an injection of a narcotic.

7. Another class of drugs called the hallucinogens:

A. may cause either pleasant or terrifying visions.
B. have no mental effect.
C. cause predictable actions for all users.
D. have no physical effect.

8. One of the greatest dangers for marijuana users is that:

A. they experience hallucinations.
B. they soon may want a bigger "kick" and as a result turn to heroin or other drugs.
C. death often occurs when an overdose has been taken.
D. in its original form it may explode and cause permanent damage.

7. Federal, state and local governments realize the seriousness of drug misuse:

A. but have been able to do nothing to control it.
B. and are trying to start action for control of the misuse.
C. and have enacted laws to help control it.
D. but considers its control should be up to each individual.

8. Research in drug prevention and drug cure is being conducted by:

A. doctors throughout the world.
B. scientist with a chemistry background.
C. the police departments.
D. experts in many areas such as medicine, sociology and law.

9. According to the presentation the penalty for illegally selling narcotics is:

A. from 2 to 10 years in prison.
B. 20 to 40 years in prison.
C. life in prison.
D. a $1,000 fine for the first offense.

10. The problem of drug abuse can be helped if young people:

A. try never to talk about the drug problem to their friends.
B. try to make a citizen's arrest of people misusing drugs.
C. never watch television programs on drugs.
D. never experiment with drugs in any form.

APPENDIX H

SEMANTIC DIFFERENTIALS

PIC: What is your opinion of the message that was just presented to you?

	2	1	0	1	2	
Believable	_____	_____	_____	_____	_____	Unbelievable
Right	_____	_____	_____	_____	_____	Wrong
Incorrect	_____	_____	_____	_____	_____	Correct
Reasonable	_____	_____	_____	_____	_____	Unreasonable
Dependable	_____	_____	_____	_____	_____	Undependable
Dishonest	_____	_____	_____	_____	_____	Honest
	2	1	0	1	2	

PIC: What is your opinion of the information source that presented the message?

	2	1	0	1	2	
Effective	_____	_____	_____	_____	_____	Ineffective
Successful	_____	_____	_____	_____	_____	Unsuccessful
Ignorant	_____	_____	_____	_____	_____	Expert
Capable	_____	_____	_____	_____	_____	Incapable
Intelligent	_____	_____	_____	_____	_____	Unintelligent
Powerless	_____	_____	_____	_____	_____	Powerful
	2	1	0	1	2	

PIC: What is your opinion of the need for studying "drug misuse" based upon the information from this presentation?

	2	1	0	1	2	
Valuable	_____	_____	_____	_____	_____	Worthless
Important	_____	_____	_____	_____	_____	Unimportant
Bad	_____	_____	_____	_____	_____	Good
Wise	_____	_____	_____	_____	_____	Foolish
Necessary	_____	_____	_____	_____	_____	Unnecessary
Negative	_____	_____	_____	_____	_____	Positive
	2	1	0	1	2	

APPENDIX I

ATTITUDE PREFERENCE SCALE

DIRECTIONS

The following questions are seeking your opinion about the presentation just given to you. After reading each question place an X above the response that most closely relates to your "feelings." Be sure to check only one.

1. What is your general overall feelings toward the presentation?

like	like somewhat	neutral	dislike somewhat	dislike

2. What is your opinion of the voice that narrated this presentation?

like	like somewhat	neutral	dislike somewhat	dislike

3. What is your opinion of the pictures that were used in this presentation?

like	like somewhat	neutral	dislike somewhat	dislike

4. How would you feel if all the materials used in your school work contained a voice like the one in this presentation?

like	like somewhat	neutral	dislike somewhat	dislike

5. How would you feel if all materials used in your school work contained pictures of people like those used in this presentation?

like	like somewhat	neutral	dislike somewhat	dislike

6. How would you like to have this presentation given to you again.

like	like somewhat	neutral	dislike somewhat	dislike

APPENDIX J

ETHNIC IDENTIFICATION CHECK SHEET

INSTRUCTIONS

Please read the following instructions carefully.

Check the appropriate space which best describes how you perceive the voice sound of the narrator on the automated slide presentation.

_____Sounds like a Black speaker

_____Sounds indistinguishable.

_____Sounds like a White speaker.

APPENDIX K

INTRODUCTORY INSTRUCTIONS TO STUDENTS

INSTRUCTIONS TO STUDENTS

Good morning. Today you are meeting in a different room than usual so that you may participate in a special activity. You are about to view a tape/slide presentation entitled, Drug Misuse and Your Health. The presentation includes some special features that are being considered for production of other materials. During the presentation pay strict attention to the narrator and the projected visuals.

After the presentation is completed you will be asked to give your reactions concerning its effectiveness. Further instructions will be given to you at the end of the presentation.

APPENDIX L

INSTRUCTIONS FOR USING THE SEMANTIC DIFFERENTIALS

INSTRUCTIONS

The purpose of this study is to measure the meanings of certain things to various people by having them judge them against a series of descriptive words. In taking this test, please make your judgement on the basis of what these things mean to you.

Here is how you are to use these scales:

EXAMPLE: What is your opinion of school?

1. If you feel that school is very closely related to one end of the scale, you should place your check-mark as follows:

   Good __X__:_____:_____:_____:_____ Bad

   OR

   Good _____:_____:_____:_____:__X__ Bad

2. If you feel that school is related somewhat to one end of the scale, you should place your check-mark as follows:

   Friendly _____:__X__:_____:_____:_____ Unfriendly

   OR

   Friendly _____:_____:_____:_____:_____ Unfriendly

3. If you feel that school is neutral, or you simply do not feel one way or the other, you should place your check-mark as follows:

   Fair _____:_____:_____:_____:_____ Unfair

Be sure to check every scale for each idea--do not omit any. Never put more than one check-mark on a single scale. Do not worry or puzzle over individual items. Work at a fairly high speed. It is your first impression, your immediate "feelings" about the item that is important. Do not look back at items you have already checked. Make each item a separate and independent judgement.

APPENDIX M

SUMMARY OF STATISTICAL ANALYSES

Null Hypotheses	Significant Level	Statement of Rejection or Non-Rejection
1. There will be no difference between the mean score of subjects who receive a message from an information source with a distinguishable White voice and the mean score of subjects who receive a message from an information source with a distinguishable Black voice when the following scales are the dependent variables:		
1. "trustworthiness" scale.	NS	Non-Rejection
2. "expertness" scale.	NS	Non-Rejection
3. "preference" scale.	NS	Non-Rejection
4. "concept acceptability" scale.	NS	Non-Rejection
5. "retention of message" scale.	NS	Non-Rejection
2. There will be no difference in the mean score of subjects who receive a message from an information source with visuals depicting all White people, the mean score of subjects who receive a message from an information source with visuals depicting all Black people, and the mean score of subjects who receive a message from an information source depicting a combination of both Black and White people when the following scales are the dependent variables:		
1. "trustworthiness" scale.	NS	Non-Rejection
2. "expertness" scale.	S	Rejection
3. "preference" scale.	S	Rejection
4. "concept acceptability" scale.	NS	Non-Rejection
5. "retention of message" scale.	NS	Non-Rejection

Null Hypotheses	Significant Level	Statement of Rejection or Non-Rejection
3. There will be no difference between the mean score of White subjects and the mean score of Black subjects when the following scales are the dependent variables:		
1. "trustworthiness" scale.	NS	Non-Rejection
2. "expertness" scale.	S	Rejection
3. "preference" scale.	S	Rejection
4. "concept acceptability" scale.	NS	Non-Rejection
5. "retention of message" scale.	S	Rejection
4. There will be no two-way interaction between the race of the subjects and an information source with a distinguishable White voice or an information source with a distinguishable Black voice as indicated by the mean scores of the subjects when the following scales are the dependent variables:		
1. "trustworthiness" scale.	NS	Non-Rejection
2. "expertness" scale.	NS	Non-Rejection
3. "preference" scale.	NS	Non-Rejection
4. "concept acceptability" scale.	NS	Non-Rejection
5. "retention of message" scale.	NS	Non-Rejection
5. There will be no two-way interaction between visuals depicting all White people, or visuals depicting all Black people, or visuals depicting a combination of White and Black people and a distinguishable White or Black voice as indicated by the mean scores of the subjects when the following scales are the dependent variables:		
1. "trustworthiness" scale.	NS	Non-Rejection
2. "expertness" scale.	NS	Non-Rejection
3. "preference" scale.	NS	Non-Rejection
4. "concept acceptability" scale.	NS	Non-Rejection
5. "retention of message" scale.	NS	Non-Rejection

Null Hypotheses	Significant Level	Statement of Rejection or Non-Rejection
6. There will be no two-way interaction between the race of the subjects and an information source with visuals depicting all White people, or an information source with visuals depicting all Black people, or an information source with a combination of White and Black people as indicated by the mean scores of the subjects when the following scales are the dependent variables:		
1. "trustworthiness" scale.	NS	Non-Rejection
2. "expertness" scale.	S	Rejection
3. "preference" scale.	S	Rejection
4. "concept acceptability" scale.	NS	Non-Rejection
5. "retention of message" scale.	NS	Non-Rejection
7. There will be no three-way interaction with the race of the subjects and an information source with a distinguishable White voice or a distinguishable Black voice and visuals depicting all White people, or visuals depicting all Black people, or visuals depicting a combination of both Black and White people as indicated by the mean scores of the subjects when the following scales are the dependent variables:		
1. "trustworthiness" scale.	NS	Non-Rejection
2. "expertness" scale.	NS	Non-Rejection
3. "preference" scale.	NS	Non-Rejection
4. "concept acceptability" scale.	NS	Non-Rejection
5. "retention of message" scale.	NS	Non-Rejection